THE GENESEE FARMER.

VOL. IX. ROCHESTER, N. Y., NOVEMBER 9, 1839. NOS. 45—46

PUBLISHED BY LUTHER TUCKER.

TERMS.—The Farmer is published every Saturday, making an annual volume of 416 pages, to which is added a Title-page and Index, at the low price of $2 50, or $2,00 if payment is made at the time of subscribing.

☞ All subscribers must commence with the volume, Jan. 1, or with the half volume, July 1. No subscription taken for less than six months.

☞ THE MONTHLY GENESEE FARMER is made up of selections from this paper, and published on the first of each month, forming, with the Title-page and index, an annual volume of 200 pages, at the low price of FIFTY CENTS a year, *payable always in advance.*—Eleven copies for Five Dollars.

THE GENESEE FARMER.

SATURDAY, NOVEMBER 9, 1839.

UNION OF THE GENESEE FARMER AND CULTIVATOR.

Since we announced to our friends our intentions and prospects for the future publication of the Farmer, we have received from Mr. J. BUEL, Jr., a proposition, (rendered proper and necessary by the death of his lamented father,) for the union of the Farmer and the Cultivator, the publishing business to be continued as formerly by him, and the Editorial responsibilities to be assumed by ourselves. Mr. Buel has since visited us; and, after full consideration, an arrangement has been effected, satisfactory to ourselves, and which, we trust, will prove no less so to the patrons and friends of both Journals.

The united paper will be issued at Albany, under the title of

THE CULTIVATOR:

BEING A CONSOLIDATION OF BUEL'S CULTIVATOR AND THE GENESEE FARMER.

The first No. of which will be published on the 1st of January next. WILLIS GAYLORD & LUTHER TUCKER, Editors; JESSE BUEL & Co. Proprietors. Albany, rather than Rochester, has been selected as the place of publication, from the greater facilities of obtaining paper; the procuring and engraving of the numerous cuts required in such a work; and its generally more central and favorable situation for receiving and forwarding packages and communications to all parts of the country.

That the interests of the subscribers will be promoted by the union of these Journals, is confidently anticipated. The vast amount of practical knowledge and skill, contributed to the columns of the separate papers, will now be embodied in one; and while each could boast of a circle of contributors of high rank in the science and practice of farming, it is scarcely possible their concentrated labors should fail of giving one of the most valuable agricultural journals of the world. To the subscribers for the Monthly Farmer, the price of the new paper will of course be enhanced,—the price continuing at one dollar per year; but when the increase in the size and quality of the sheet,—the greater quantity of matter that will be given by the use of close and smaller type—the number of cuts and illustrations that will be employed, and the general improvement in the united paper are taken into consideration, it is believed it will be found as cheap as the former, and as well worthy of their support and patronage.

In short, no effort shall be spared to give the united paper a character worthy of the high rank and standing which the original journals, on their separate merits, had acquired. Devoted solely to the cause of the agriculturist,—to his instruction and improvement as a cultivator of the soil, and to his moral and intellectual elevation as a man and citizen of the Republic we trust a paper will be offered worthy the confidence and the support of the American farmer.

All subscriptions to the Weekly and Monthly Genesee Farmer will, in consequence of this arrangement, terminate with the present year. We anticipate, however, and most respectfully request, that those kind friends who have heretofore done so much as Correspondents and Agents, to give the Genesee Farmer its high character and extensive circulation, will extend to us, in our removal to a more extensive field of usefulness, their continued assistance and kind offices. Post-Masters, Agents, and others, who will obtain subscribers, and transmit the subscription moneys free of charge, will be allowed commissions at the following rates:

For ten subscribers or over,.....10 per cent.
twenty or over,.....15 "
fifty or over,.....20 "
one hundred or over,.....25 "

It has been decided by the Postmaster-General, that Postmasters have the right to enclose money to the publishers of newspapers, for third persons. This liberal construction of the post-office law, we hope, will induce Postmasters to take an interest in the circulation of our paper, which we may assume, without vanity, will tend to improve agriculture wherever it circulates, and consequently to benefit the neighborhood.

In relation to the price of the Cultivator, which has been published for the last two years at one dollar a year, we copy the following from a recent number of that paper:—

"The publication of the Cultivator was commenced at 25 cents per volume; the price was afterwards advanced to 50 cents, and at the commencement of the fifth volume, to One Dollar per annum. It is due to our patrons to explain the cause of this increase in price. The size of our pages has been enlarged, the quantity of matter increased, and the quality of paper improved, until the expense of type-setting and paper, the two prominent items of our expense, is now more than double what it was when the price was fifty cents, and four times as great as it was when the price was but twenty-five cents. To enable the reader to judge of its now relative cheapness, compared with literary periodicals, we state, for their information, that a volume of the Cultivator, including its usual extra sheet, contains about double the quantity of matter that is contained in two volumes, published in a year, of the North American Review. The subscription price of the two volumes of the Review is Five Dollars—that of the Cultivator One Dollar. To be equal, in proportion to the quantity of matter, the price of the Cultivator should be Ten Dollars a year.—We are only enabled to print the Cultivator at this small price, from the extent of our subscription; and we are indebted for our liberal subscription to the kind offices of our correspondents and agents."

We shall send out with each of our packages this month, a Prospectus for the united paper; and should any gentlemen to whom it may be sent lack leisure to present it to his neighbors, he will do us a favor, and we think a public service, by placing it in the hands of some one who will take an interest in soliciting subscript.ons. It should be returned, or a list of the subscribers be sent to JESSE BUEL & Co., Albany, at as early a period as may suit the convenience of the agent.

Our Circulation.

The subscription to the Genesee Farmer is now 18,000, and to the Cultivator 15,000. Should the friends of both papers renew their subscriptions, it will be seen that we shall have a circulation equal probably to that of any publication in America. Some subscribers to the Farmer will probably fall off in consequence of the increase of price to them; but may we not hope that the friends of Agricultural improvement will use sufficient exertions to make up, or more than make up for this deficiency? We ought to have at least 20,000 subscribers in this state alone. This would give less than *two* to each School District, there being about 11,000 organized districts in the State. At any rate, it will be our aim to furnish a paper worthy of a circulation equal to that of any other publication in the world; and we shall make such arrangements as will enable us to supply all orders which may be received, which, unfortunately, we could not do for the present volume.

☞ Agents and others who are indebted for the Farmer, are particularly requested to forward us the balances due, with as little delay as possible, as we wish to close up the accounts for the Genesee Farmer as speedily as possible. We shall keep our old office open at *Rochester*, for the settlement of accounts through the ensuing winter, where also subscriptions will be received for the Cultivator, though all letters intended for that paper, should be addressed to Jesse Buel & Co., Albany.

☞ All subscribers who have paid in advance for either the Weekly or Monthly Farmer, will have the united paper continued to them until their advance payments are exhausted. Should any one, however, prefer to have his money returned, it will be remitted in any way he may direct.

☞ We inclose in this paper bills to all who are in arrears for this paper, in the expectation that each subscriber will forward to us, in some way, the amount for which he may be indebted. Payments may be made to Postmasters generally, unless they decline to forward it to the publisher.

Double Numbers.

We publish this week a double number, and it is our intention to do so for the next three weeks, in order to enable us to close up the current volume of this paper, that we may have time to complete our arrangements and superintend the publication of the first number of the united paper at Albany, on the first of January.

Rochester Seed Store.

Mr. BATEHAM, proprietor of this establishment, returned from Europe in the Great Western, which arrived at New-York on the 2d inst., and we are happy to learn, has his stock of Seeds, purchased by himself, of the present year's growth, now on the way to Rochester.

Schools for Agriculture.

The very great success which has attended agricultural schools wherever they have been instituded, the improved systems of farming they have been the means of producing; the knowledge they have diffused on the science and practice of agriculture; and the increased amount of product given from farms cultivated by skill and according to the improved methods taught at such schools should cause their adoption in every part of the country; at least should banish the foolish prejudices which have so long existed against them. In France, in Belgium, in Prussia, in England, and in Ireland, they have been tried with the best effects, and are continued with increasing success. In all these countrys a farm is selected on which the various operations of farming can be profitably shown, and performed, and where under the direction of competent instructors, boys of a proper age are taught the various processes necessary to the cultivation of the soil. A certain number of hours daily is devoted to out-door labor, while the rest of the time is occupied with such duties or studies as shall be deemed the most beneficial to the individuals.

Several such schools have been commenced on the continent of Europe, on a magnificent scale; but the most common, and those that promise to be the most useful, have been established by individual enterprise, or associations of individuals, each contributing his part of the expense, and sharing in the profits of the undertaking. Such schools in connection with Agricultural Societies, fairs, and shows, are exercising a potent influence on the cultivation of the soil, making men acquainted with the improved methods of farming, the choicest kinds of stock of all kinds, and the best methods of breeding them so as to prevent deterioration. We hope to see agricultural schools common in our country. There can be no good reason given, why men intended for farmers should not be instructed fully in their profession when young; or why if necessary, the aid of the state should not be afforded to their establishment and endowment. When, however, the public mind is sufficiently enlightened on these topics, agricultural schools will be established where needed without waiting for the tedious and uncertain co-operation and aid of legislatures, as fairs are now held, without such assistance. What the people will, they perform; and we hope on the subjects of Agricultural Schools and Societies, they will decide and act, promptly and effectually.

Items of Correspondence.

"The ——— has in my opinion, taken too much from foreign periodicals, without sufficient reference to the price of labor, and its determining influence over the culture of this and other countries. For instance, we are repeatedly urged to collect *leaves* as a manure! In England, it was my frequent practice, here it would be time badly misspent. Liquid manure is of great value to the farmer; but the suggestion of its use in this State, at present, is not only very premature, but the climate, &c., &c., presents many difficultues that appear to have been overlooked."

The above remark relates to one of the most widely circulated agricultural papers of our country, and is perhaps more or ess applicable to all such journals, in the United States. It is from the pen of a man whose ample experience in farming, both in England and in this country, entitles his opinion to great weight, and should have a tendency to correct the error alluded to, wherever it may exist. In former papers we have pointed out some of those things in which we might advantageously imitate foreign cultivators, and also others which however profitable there, could never, from the difference in the value of products, the price of labor, climate, and other causes, be adopted here. For instance, plowing is pursued in some parts of England, every month in the year. The parcels of wheat, some of them at least, that obtained the prize, at the meeting of the English Agricultural Society, at Oxford, were sown in January and February; and the reason why the Whittington wheat sent out to this country, did not succeed here as a spring wheat, as it is called there, is, that it cannot be sown early enough in the year here, to perfect its seeds the same season, here it must be sown as an autumn or winter wheat. The price of labor too, is widely different. There, women at about six or ten cents per day, perform a large part of the field labor that is here done by men at from six to twelve shillings per day. A hundred women at a time, may be seen in the wheat or turnep fields of Holkham, working as steadily as men; and the practice is almost universal in that country. No one can wish for such a state of things here. The modes of cultivation are too costly for us. Methods of improving country farms, are frequent there, that cost more per acre, than our best lands in the vicinity of our cities would bring, if offered for sale. We frequently read of draining, at an expense of 15, 20 or £30 per acre, or about seventy, ninety, or one hundred and thirty dollars; and this, on common farms. We know that draining is invaluable, but to talk of *such* draining where land is only from twenty to seventy-five dollars per acre is nonsense. Such expense is in the nature of things impossible. In a late English Journal we noticed a mode of freeing soil from stones, highly recommended, and which had proved very useful where tried. It was to sift the whole to the depth of some two feet, through course wire sieves, so that no stones or gravel over three fourths of an inch should be left. The expense was forty pounds sterling, or nearly two hundred dollars, per acre; yet the outly gave a profit, as the rent of the land advanced £3 per acre in consequence. Manures too are there prepared, and purchased, in quantities and at rates that would be ruinous here. It is not uncommon there, to spend from twenty to forty dollars per acre in manuring; and yet, owing to the difference in labor, and the price of produce a greater profit is realized there than here, and practices are advisable, and were necessary there for enriching the soil that would ruin a farmer here, should adopt them.

In the advanced state of English and Flemish agriculture, the farmer of this country will find many things worthy of imitation and approval; but great discrimination is necessary, and a knowledge of the circumstances of each country so far as regards climate, wages, price of products, and rates of profit, must be acquired before their systems can be safely recommended or adopted here. In the introduction of improved breeds of animals, or improved implements of agriculture, little danger of mistake from neglect of the above causes of difference exists; the general temperature and climate being such as to render the same animals and implements proper in both. It is in the modes of culture, preparation of the soil by draining or manuring, time of sowing seeds, &c., that the American farmer must differ from the European; and our agricultural periodicals in giving extracts from their modes of practice, should keep in mind the facts that render such variations in practice, proper or necessary.

Inquiry—Lime.

"Mr. Editor—Much has been said and written on the subject of using lime, and the Reports of the Geological Surveyors of this state and others, justly lay considerable stress on its existence as proof of the fertility of the soil, or its capability of producing crops. I should like to know whether lime ever exists in a soil in too great quantities; what the proper proportion in a soil is; and whether any instances have occurred in which a free use of lime has proved injurious. A reply as full as you may deem proper would probably gratify more than one subscriber to the Genesee Farmer.

M. S. L."

The constant tendency of carbonate of lime, which is the form in which this mineral usually exists in soils, is to sink, hence it is rarely found when in a friable or pulverized state in sufficient quantities in any soil to be injurious. That it has a tendency to sink is proved by the examination of soils to which lime has been applied for a considerable time, as in some of the counties of England, and some parts of the United States; and also from the fact that in hardpan or retentive soils, a greater quantity of lime usually exists at the upper part of the pan than in the soil above; two or three per cent of lime being not unfrequently found in the subsoil, when scarcely a trace is found in cultivated parts. It may be concluded, then, that with very few exceptions, where the soil is in a state of nature, it does not contain lime enough to be injurious. The very fact, that soil, which is a combination of vegetable matter wish the earths, exists in any place, is proof that lime is not present in injurious quantities. The soil on beds of limestone rock does not usually contain more than a proper proportion of lime; and from its dryness constitutes one of the most valuable of soils.

To determine the proper proportion of lime in a soil is a difficult matter; as it is depending on a variety of causes which exert all of them more or less influence. That this is the case, is evident from the fact that an analysis of the most fertile soils gives very different results. Soils containing a large quantity of vegetable matter will bear more lime without injury than very lean ones, as more matter exists for it to act upon. The quantity of lime in our most fertile soils is much less than is usually supposed. Mr. Ruffin, the able editor of the Farmer's Register, and who has paid more attention to the subject of lime in soils than any other man in America, states that large parts of Virginia, and even some of the limestone regions of the west, scarcely show the faintest trace of lime in their soils, yet some of these are of the most productive quality, particularly the western ones. Mr. Hitchcock states in his geology of Massachusetts, "that out of one hundred and twenty-five specimens of soils from all parts of the state, and several of them from limestone tracts, only seven exhibited any effervescence." He also examined five specimens of some of the richest soils in Ohio and Illinois, and though some calcareous matter existed in all, yet the average did not exceed two per cent. The recent able report of Dr. Jackson, on the Geology of Maine, furnishes the analysis of a great number of specimens of soils from that state, the highest of which in the scale for corbonate of lime was from the farm of B. Bryant in Anson, and was an excellent wheat soil, producing forty bushels of wheat to the acre.

One hundred grains of fine soil contained:

Water,	7.6
Vegetable Matter,	5.6
Per-oxide of Iron,	6.1
Carbonate of Lime,	4.6
Insoluble Matter,	75.0
Loss,	1.1
	100.0

The next highest in the scale was from a field in Union, which last year gave forty bushels of wheat t the acre, and on analysis gave the following result:

Water of Absorption,	4.6
Vegetable Matter,	8.2
Per-oxide of Iron and Alumina,	9.8
Insoluble Granitic Soil or Silex,	73.2
Carbonate of Lime,	4.2
	100.0

Yet, as if to show that large quantities of lime were not indispensable in a soil otherwise well constituted, a soil that last year produced forty-eight bushels of wheat to the acre, gave only 1.5 per cent of lime, but of soluble vegetable matter the great quantity of 12 per cent; thus plainly disclosing the cause of its fertility.

The lowest specimen in the scale was from the beech woods over the celebrated Thomaston lime quarries, and is remarkable as a proof that the immediate vicinity of lime rocks is not conclusive evidence of its existence in the soil. Here analysis showed only the minute part of 0.2 per cent. This soil had never been cultivated.

An examination of various specimens of soils ourselves, as well as the analysis of others, has convinced us that from three to five per cent of lime is found in the best wheat lands; but that a much less quantity is amply sufficient for the production of good crops, where the soil in other respects is in good condition. The larger the quantity of lime in any soil, the more durable it will be, or the longer it will feel the good effects of manuring, as the lime materially aids the preparation of such applications for conversion into the food of plants. Of course the smaller the per cent originally in the soil, the greater the necessity for its repeated application, when under the process of cultivation.

In reply to the third branch of the query, viz: whether any instances have occurred in which a free use of lime has proved injurious, we remark, that the occurrence of such injury is very possible, and that English works on agriculture record many such instances. The possibility of land receiving injury from lime is evident from the fact, that a soil in which any one of the principal earths, silex, lime, or alumine exists in disproportionate quantities is barren. Soils in which more than from 75 to 80 per cent of silex exists are unfit for cultivation; and Chaptal says, that soils in which clay or alumina equals or exceeds one-half, are fit only to be employed as the basis of some kinds of earthenware. So if the lime is in too great proportion as in what are called the chalk molds of England or France, the soil is unfit for crops of any kind. Where soils do not abound in vegetable matter, or when it is not applied in the form of manures, it is clear that repeated applications of lime will exhaust the soil of the little nutritive matter it contained, and thus leave it barren, or unproductive, until restored by the slow process of natural vegetation. The law in this case seems to be, that while any one of the earths, or even pure vegetable mold, by itself, is unfit for the purposes of vegetation, the best soil is that which unites the greatest number of these properties, in the desired proportion. Land may be unproductive from various causes, as the want of lime or the excess of it; the want of vegetable matter or the excess of it; though the last must be considered a rare occurrence. Col. Springer, a gentleman of Delaware, where lime has been used more extensively than in any other part of the United States, except the adjoining part of Pennsylvania, in writing to his brother in Ohio, says, that farmers there are finding they have relied too much on lime, and that their lands are rapidly becoming exhausted in consequence of applying too frequently and in too large quantities. From his description, and from that of others in that section of country, it is evident the vegetable matter of their soils is exhausted, and the quantity of lime is becoming disproportioned to the other materials. In this case, however, nothing is wanting but the application of animal or vegetable manures to give a high degree of fertility, as all the other ingredients necessary, are already present. In the British Husbandry, Vol. I, on the use of lime, is the following statement:

"Lime may be hurtful to vegetation, when laid in too large a quantity upon very light and warm soils, for by

quickening evaporation it dries the land too much, by which means many plants are deprived of the moisture necessary to their sustenance; therefore it is that such calcareous earths are frequently known by farmers as 'burning soils': and by its injudicious application or repetition, without the aid of animal or vegetable matter or manure to supply the nourishment of which they have been deprived by crops, the growth of which has been thus forced, land, though of superior quality, may at length become exhausted."

We have come, then, to the conclusion, that, 1st, soils in a state of nature rarely contain lime enough to be injurious; 2d, that good soils are found in which from only 1 to 5 per cent of lime is found, thus showing that its usefulness or activity is in a great measure depending on the quantity of vegetable matter in the soil upon which it can act; and 3d, that lime can be applied to soils in quantities beyond the actual wants of the land, and consequently to an injurious extent.

Inquiry—Management of Sandy Soil.

"EDITOR OF GENESEE FARMER—*Sir:* My farm is a light sand, very easy to work, producing good crops from the use of plaster and clover, but not showing the effects of manure as much, or as long, as I have supposed land to which it was applied, should. Is there any mode of treatment by which this defect can be remedied, and what is the proper course to pursue. A. B."

The loss of the manure, in the case alluded to by our correspondent, proceeds from infiltration, or sinking in the porous subsoil; and to prevent such a result, more body or tenacity must be given to the soil. Large bodies of land of this description within twenty miles of Albany, have been changed from what was formerly considered worthless pine plains, into fertile fields. Usually in the vicinity of such sandy lands, swamps filled with clay or alluvion can be found, and this material drawn upon and incorporated with such light soils, gives them a consistency and power of retaining moisture, and consequently manures, that they could not have without it. If the clay contains some lime, or in other words, is marl, it will be so much the better, as sandy or very light soils do not usually abound in lime. Leached ashes, where they can be obtained, have proved of great service in improving sandy soils, and are very extensively used on Long Island for that purpose, in connection with dressings of seaweeds. Dr. Jackson remarks, page 165 of the Geological Survey of Maine, that "spent ashes acts also by the quantity of lime it contains, and the principal advantage of using it in preference to lime alone in the treatment of sandy soils, depends upon the clayey nature of the ashes itself, which serves to improve the texture of the soil, and retains the manures and water longer than it otherwise would." Giving more firmness to the soil by the mixture of clays or marls, leached ashes, or other substances calculated to give more tenacity and promote the power of absorbing and retaining water; and a free use of clover and plaster, would be the course that has been successful on many soils like that of our correspondent, and would doubtless succeed on his.

Blight in Wheat.

We copy from the London Farmer's Magazine for September, the following notice of a blight in wheat, to which that crop in some parts of the United Kingdom, has been subject the past season. In this country, we have observed nothing of a similar kind, though blight in other forms is not uncommon. Last year, in many fields, part of the length of the ear would have no perfect berry, and in some instances, to such an extent, as seriously to affect the entire amount of the crop; but in these cases, so far as our observation extended, the entire ear, on both sides of it, and not one side only, was injured. We think we have known no harvest for many years, in which so little loss has been sustained from the fly, worm, or blight. The worm in particular, which has excited so much alarm for a few years past, seems this year to have attracted little or no notice, and in traversing the whole of our great wheat growing district from Onondaga to Buffalo, we did not hear it once mentioned as a source of injury. In the valley of the Hudson, and in the New England States, judging from the agricultural journals, and the estimated amount of the grain crop in those sections, the same absence of the worm existed. We have reason to hope that the probability we last year suggested of the worms being only a temporary scourge, is about to be realized. But to the extract.—

"*Blight in the Wheat Crop.*—An intelligent correspondent has sent us a few heads of wheat, cut from a field of about three acres, which is blighted on that side that grew to the south west. This part of the head has no pickles of grain, whilst the other sides are all sound. The entire field is in the same condition; and our correspondent says, he has heard accounts from several quarters, of the wheat being generally affected in the same way."

Quantity and Spread of Manures.

Number of heaps to a load,	1	2	3	4	5	6	7	8
At 5 yards distance,	193	96	64	48	38	32	27	24
At 5½ yards distance,	160	80	53	40	32	26	23	20
At 6 yards distance,	134	67	44	33	26	22	19	16
At 6½ yards distance,	114	57	38	28	29	19	16	14
At 7 yards distance,	98	49	32	24	19	16	14	12
At 7½ yards distance,	86	43	28	21	17	14	12	10
At 8 yards distance,	75	37	25	18	15	12	10	9

The above table, which we copy from the Farmer's Cabinet, shows the number of loads required to cover an acre, the heaps of manure being dropped at given distances. It may be useful also in the application of lime, ashes, or other substances usually carted on to land, and deposited in heaps preparatory to being spread over the soil. It needs no explanation, and where correctness is desirable, as it is in all farming, it cannot fail of being seful.

The Rohan Potato.

This vegetable bids fair to become a general favorite, as the crop of this year seems in a great measure to have justified the high anticipations formed respecting its value, much exceeding as a whole in amount, the yield from the ordinary varieties. The advantages of the Rohan, appear to consist principally in its greater productiveness, and the uniformity of their size. In those we have cultivated, or seen grown, there were few or no small ones, not as much scattered in the hills as the common kinds, and therefore harvested with more ease and rapidity. We do not imagine that for the table, the Rohan is likely to prove a very great acquisition. In quality for cooking, it is fair, but nothing more, not equalling in mealiness, or fineness of flavor, the Pinkeye, or the Mercer. But for stock, or for feeding swine, we think it will be very valuable, and have no doubt, that for a time at least, it will almost supersede the common kinds for these purposes. In planting, the Rohan will go much farther than any potato cultivated. This is owing to its not requiring more than one eye set in a hill, and every potato giving a multitude of sets. With the common potato, from twelve to twenty bushels are required per acre, for seed; while four bushels of the Rohans cut into sets, are a great supply. The extraordinary vigor of the Rohan potato plants, is a striking proof of the greater strength of constitution, possessed by new seedling varieties of plants, (for such the Rohan is,) over those that have long been cultivated, and have greatly degenerated from their pristine vitality. This should induce more attention to the cultivation of plants from seeds, as it is in this way we may rationally hope to produce varieties still more valuable.

CORN.

The present season has proved a very good one to test the ripening qualities of the many various kinds of corn that have been offered to the public, within a few years, for their approval or condemnation. Though not one of the most favorable for the crop, it was still good enough to bring to maturity, and in time to avoid danger from frosts, all the varieties that are fit for cultivation in our climate. The Chinese, the Baden, and all the southern and western corns, have received their quietus for our latitude, and left us to grow, and improve, if we can, the good old fashioned kinds that are sure to get ripe, if properly cultivated, and produce as much as those of any variety either south or north. The Dutton, the Red Blaze, the common eight rowed white or yellow, the smaller, but still earlier varieties of the Canadian corn, have all succeeded well this year, as high as latitude 44°; and we thing our farmers will do well to adhere to the choicest kinds of these. Careful selection of the seed, and proper cultivation will enable the farmer greatly to improve the early ripening, and the quantity of his corn, and the lesson that has been read to them this year in some of the gross impositions practised on the public, will doubtless teach them to be cautious of listening to mere protestations or promises, however loud or specious they may be.

"The Farmer's own Book."

We have received from the Author, Horace Hooker of Hartford, a little volume of some 180 pages, devoted to the moral and intellectual improvement of the agricultural class. The subjects discussed, are well chosen and arranged, the mode of treating them interesting and satisfactory, and the style and moral tone of the work, precisely such as a farmer would like to have prevail in a volume, he intended to place in his children's hands. We have only room for a few extracts:—

"Stability is the peculiar feature which marks rural life; and this it is which makes the agricultural class, the pillar and hope of our republican institutions. This feature is impressed on their minds by the uniformity which is a prominent characteristic of their occupation. They are stable, because they have been conversant with the stable and regular operations of nature. Their character resembles their employment. They catch the spirit of their teacher. Nature is uniform, calm, and stable, and her pupils as we might expect, imitate her example." Page 30.

The effect of this stability of character is apparent in the marked difference existing between the population of cities and the country; the former is hasty and excitable, the latter reflective and cool; revolutions begin in cities, it is the country that carries them forward to their legitimate consequences. Change in the country is the result of deliberation, and is therefore slow, in the city is rapid, because it is the work of impulse. The effect of this difference in favor of the country is well delineated by Mr. Hooker.

Every farmer who is about to build, would do well to ponder the following extract, which is conceived in the spirit of the Roman maxim, that no farmer should build a house which the income from his farm for a single or at the most, two years, would not defray the expense. Many modern farmers seem to have reversed this maxim, and build houses that swallow their income for years, if they do not actually destroy them.

It is foolish for a farmer to expend in ornamenting a dwelling, capital, which he may need for the successful management of his farm. What is laid out in needless decorations to his house, ought to have been laid out in improving his land. He cannot adopt new modes of cultivation, or purchase new and valuable implements of husbandry, for want of means. His soil will become sterile, and his land decline in value, while the farms of his more prudent neighbors, will grow in richness and in worth. After struggling with his burden, for a few years, he will probably be obliged to sell his property, and yield up his house to some one who began life with more judgment and economy. When it is too late, he will find the words of the wise man are still true;—'He that exalteth his gate, seeketh destruction.'" Page 107.

The remarks on getting in debt, are true as holy writ. There is nothing which acts so effectually as a perpetual drawback on prosperity, as running in debt. But on this point, hear Mr. Hooker:—

"The precept of the apostle is, "owe no man any thing.' To obey this precept is the best policy. If the farmer runs in debt for the labor on his farm, and for the support of his family, trusting to his produce for the means of payment at the close of the year, he will trade at disadvantage. He will be obliged to give a higher price for every thing, than if he paid cash, and he will purchase many articles which he does not need, and which if he had to pay for them at the time, he would not buy. Besides, some of his crops on which he relied for the discharge of his debts, may fail, and then he may be embarrassed, and unable to fulfil his engagements. If this should happen, his credit will suffer; and those who trust him afterwards, will charge an additional price, because they do not expect punctual payment." Page 149.

We can cordially recommend this little volume to the

notice of the farmer, not of course as a guide to the practical cultivation of the soil, but as a valuable aid to the purposes indicated in the title page—the intellectual and moral improvement of the agriculturist.

Hog Manure.

For aiding the growth of many plants, and particularly corn, we have never found any manure the application of which produced such effects as that from the hog pen. Last year we had a field of corn dunged in the hill, part of it with alternate loads of hog pen manure, and common good stable manure. Each load planted about five or six rows. From the commencement of their growth, till the ripening of the corn, the rows manured from the pig pen had the advantage, and at harvesting they yielded a much larger quantity of corn than the others though all was excellent. A neighbor the last spring, in planting his corn, used good stable manure, except for some few rows, for which the stable manure falling short, he substituted a load or two from his hog pen. The difference in the size of the corn from the first, was such as to arrest the attention of every passer by, and though the year has been unfavorable for corn, it has given a handsome product compared with the other. Other instances have this year fallen under our notice, the results of which were precisely similar, and have established in our opinion at least, the superiority of this manure over every other. Its greatest effect, however, so far as our experience or observation has extended, is produced on soils of a loamy or sandy texture, and on vegetables that require active manuras to bring them forward rapidly.

It appears to us, then an object of considerable consequence to the farmer, that he should avail himself of this resource for fertalizing his soil, as far as possible, and that methods should be adopted by him to preserve, and increase the amount at his command, as far as may be, and not allow the avails of his pig pen to be lost to the farm, as is not unfrequently done. Where pigs are allowed a small yard to run in from the pen, they may be made to produce a large quantity of good manure, by frequent additions to the material in the yard, of straw, weeds, turfs, muck, or even good common earth, to absorb the fluid part of the manure, and preserve its salts from escaping. In this frequently renewed mass, the pigs will love to work; and if any disinclination is manifested in them to stir this compost heap, a few handfuls of corn scattered over the surface, will speedily overcome it, and set them busily at work. If the pigs cannot leave the pens, the stye should be frequently cleaned, and care should he taken, that the dung so thrown out, is not lost to the premises. A load of muck, or vegetable mold, occasionally mixed with, or thrown upon the heap, will, when the time for using it in the spring of the year arrives, be found from this absorption of salts, and combination with the manure, an application of much greater value, than common stable manures, for most of the crops cultivated by the farmer. Fresh manure of any kind, should not be applied directly to crops of grain; as they are apt to produce too much straw and endanger the formation of a good berry. Manure should be first applied to roots, or to corn, and grain follow; by which the danger of a too rapid growth is avoided.

New Cutting Machine.

William Hovey of Worcester, has invented a new and improved Straw Cutter, which promises to exceed in usefulness, all implements of the kind that have preceded it. From the engraving that accompanies it in the Boston Cultivator, it appears to be simple in its construction, and made on correct principles, combining ease of action with rapidity of execution. Green's Straw Cutter has hitherto pleased us better than any other; the only serious objection to it, being in the fact that it does not cut some materiale as fine as is desirable for chaff. If, as Mr. Hovey asserts, "there is no machine in use that will cut with greater despatch, and none that will operate with so little power applied," and will reduce straw or corn fodder, to chaff, as fast as Green's, and make it of any desired fineness; it is an implement that will be received with great favor. The knives are placed on a wheel moved by the foot, somewhat in the manner of some English turnep cutters, the weight of the wheel, and its rapidity giving the power required.

CHINESE CORN.

Astoria, L. I. (late Hallet's Cove,) Oct. 24, 1839.

Mr. Tucker—In your Monthly Farmer for October, page 145, is a piece signed W. He begins with *Gross Imposition*, and then gives my description of the corn, Now, Mr. W., if you will substitute 10th of *August*, in place of the 10th of July, I assure you in the *words of truth and soberness*, that every word in that description is *plain truth*. Different climate, bad soil, or spurious seed, might have been Mr. W.'s misfortune. Because a man, born blind, says the sun don't shine on the 4th of July, this will not persuade us out of our senses.

Mr. Tucker, this thing was not done in a corner. In 1838, scores of my neighbors saw my corn when growing; this summer, hundreds visited my field; at the offices of the Journal of Commerce, Commercial Advertiser, Daily Whig, and at No. 11 John-street, New-York, and, I believe, at William Thorburn's Seed-store, in Albany, may be seen stalks of the corn; having ears growing on the tip end of the branches, as they stood in the ground. If Mr. W. or any of his neighbors come to Albany or New-York this fall, they ought to call and see for themselves. There has been no *underhand* nor *double dealing* on my part in this matter. I put my name to every communication I made on the subject. I said it is an *early corn*, and I say so still. We have earlier kinds, to be sure, but they are small. This season I planted on the 12th of May, and on the 22d of September my Chinese corn was dry and *gathered* into the *crib*. Mr. W. says it will not ripen with him. I think he has not got the true kind. I have advices from all quarters; in some cases it failed entirely; in some it turned out better than my own. I will give you the following, from many I received of the same import:

Owego, Tioga Co., N. Y. Oct. 10, 1839.

Friend Thorburn—I am very happy to say to you, that my gardener, (procured for me by your son,) has raised from your *Chinese corn*, this season, the finest crop I ever saw of *any* corn; all two and *five* ears, and the crop will be at the rate of *more* than 100 bushels to the acre.

Very respectfully, your friend and servant,
George I. Pumpelly.

Now, Mr. Tucker, I am a stranger to Mr. P. or rather he is a stranger to me, as I never knew there was such a man in the world, till I received the above letter. I am not sure, at this moment, where Owego lies, but I should think the corn that ripens at Owego, would not be too late for Rochester. I know the Chinese corn sold by my sons in New-York, Albany and St. Louis, was genuine. After my crop was sold last year, they obtained a supply from Samuel Parsons, of Flushing, L. I. This season I planted seven rows of his corn along side of my own; they were alike in all respects. In 1838, I planted only about two hundred hills, producing six or seven hundred ears; this season I planted a small field; when in its milky state, it was blown down in a storm of wind and rain, with the exception of ten or twelve hills. It was then ten feet high, and being heavy with ears it never rose, notwithstanding, I gathered upwards of ninety bushels from the acre.

Without all controversy, Mr. Tucker, this is a valuable corn, and will take the lead of all other sorts in the middle states, at any rate. Perhaps it may not ripen in the northern parts; but I planted the Dutton on the same field, on the same day; the Chinese was only a week later in boiling. The Editor of the Painsville (O.) Telegraph, says he has cultivated a patch of Thorburn's Chinese corn this season—the "yield averages four *large, sound, ripe ears*, for every kernel planted."

I will only observe, in conclusion, that I do not think the Agricultural Journals, Registers, and Farmers, have (in general) dealt impartially with this same corn; while the accounts are as opposite as light and darkness; they have published the dark, without throwing any *light* on the subject. I refer not to you, Mr. T., for this number, now in hand, is the only one I have seen in six months. As your correspondent requests an explanation, I doubt not but you will give this a place in your Farmer. Yours, sincerely,

Grant Thorburn.

From the Farmer's Register.

On Fatening Hogs,

BY COLD-SOAKED AND FERMENTED FOOD.

To the Editor of the Farmer's Register.

August 31*st*. 1839.

You complain very justly, I think, that many of your first contributors have grown weary in well doing; in other words, that their communications have greatly fallen off in point of numbers. Although I myself am unconscious of being one of the culprits, I determined immediately, upon reading your remarks, to act as if I really was one, and felt anxious to evince my repentance by forthwith inditing to you an epistle of some kind or other; but could think of nothing, at first, that appeared worth communicating; luckily, however, in the midst of this quandary, I picked up at second hand, from a friend, something in regard to the mode of fattening hogs, which seems to be well worthy of notice.

First, however, I must tell you, that having for a year or two past, enrolled myself in the fraternity of root-steamers for stock (horses and sheep excepted) my own experience is not yet sufficient to report to you any result of trials made by myself. I must farther confess that, as a novice in the steaming business, I still retain somewhat of that incredulity which I always feel relative to the benefits of any practice, when they appear to me so exaggerated as those do that are generally ascribed to the steaming process. But being open to conviction, and utterly condemning the old and common wasteful method of fattening our hogs, I was much gratified to hear the account which I will now give you of the mode practised by some gentleman, whose name I forget, in King & Queen or King William.

One or more casks or tubs are nearly filled with alternate layers of chopped cabbages or roots, and broken ears of corn. Enough boiling water is then poured into the vessels, to cover the food. This is suffered to stand about twenty-four hours before it is given to the hogs, by which time some fermentation takes place, if the fattening process is commenced as early in the season as he commences it, which I understand he does long before frost. A constant supply of this food is given until a very short time previous to the hogs being killed, during which they have corn alone, which is generally deemed necessary to harden their fat.

By this method we may save the expense of steaming apparatus of every kind, such as have been heretofore recommended in our agricultural papers. It is true that some of these cost very little compared to the advantages derived from them; but this little, even in the cheapest that I have seen mentioned, is worth saving, if it can be done by some contrivance still cheaper, and preferable on other accounts, as the one which I have just described, appears to be.

I am gratified that I have it in my power to give you the foregoing information at this particular time; for I have long been convinced that we should probably save, at least, half the expense of fattening our pork, if we would commence doing it by the first of September, or even sooner, and give much less corn than we generally do. To postpone putting up our hogs for the sake of the acorns and chinkapins that they may be able to find by incessant travelling about in search of them, is as complete an illustration as I have ever known of the old proverb,—"*penny wise and pound foolish*:" since to say nothing of the notorious fact that *hogs especially*, fatten much faster in warm weather than in cold, and when they can fill their bellies without having to travel miles for the wherewithal (being the laziest animals upon earth except the gluttunous man, and his prototype, the quadruped called the sloth) more of them are lost by theft, if suffered to run at large, during the nut and acorn season, than would pay, twice over, the whole expense of feeding them in pens with food that cost us little or nothing, except the expense of collecting and preparing it. Even that portion of this stock which we call "*out hogs*" could probably be kept much more economically, if not suffered to run almost wild for half the year; and were supplied with food by their owners, instead of being left to supply themselves. As they are commonly managed, we may truly estimate the annual loss, in most cases, at nearly or quite half of the whole number; for many are killed for trespassing on our crops—starvat on during three-fourths of the year, having taught them to be thieves; while a still greater number are stolen in the fall, after they get a little flesh on their bones, for a reason which I once heard alledged

by an old negro in extenuation of the practice of stealing them, that "hog meat was so miserable sweet that his fellow *servants* could not help stealing it."

Hoping that you will deem this new process for fattening hogs worth publishing, I remain, dear sir,

Yours very sincerely,

JAMES M. GARNETT.

From the New England Farmer.

BEES.

MR. COLMAN—We wonder every body does not keep bees, such active beings as they are, and so liberal in dispensing "the sweets of life." Yet we are glad they do not, for if they did, even though they had a "small beginning," they would at length become so numerous that sad consequences might result. This we have found to be the case to our cost, for in the Spring of 1833, we established a colony, which, as there was none about us, did very well, and our success excited others to embark in the same enterprise, so that in two years, they were "as thick as bees" through the neighborhood and town. The consequence was, all the bee pasture in the community was overstocked, and the long, severe winter which followed put an end to all our anticipated sweets, inasmuch as that there was scarcely a hive remaining in the circle of our acquaintance, whose inhabitants could be numbered among the living. We might have saved ours in a way which we shall speak of soon, but they had a usual supply of honey and we did not expect an unusual winter.

Last spring we obtained a hive and began again. Maugre the cold wet May and June, we have obtained three swarms from it, the hives of two of which are very heavy and the third in quite a winterable condition. Our first swarm came off about the middle of May, and lit on a currant bush, consequently we had no trouble in hiving it, but the second which came off only a few days later, displayed an obstinacy worthy of the human species, for they lit on the body of a beautiful maple on one side of our yard, just at the place where the lower branches put out. We tried almost as many devices to get them off as the "old man" did to drive the rude boy" from his apple tree, and with no better success; we jarred the tree, but we could not jar them off: we tried to brush them down, but to this they objected; we confined a hive to the tree, and wound a cloth around it and them, hoping to lure them to a domicil in this way, but they had no more ambition to climb, than propensity to descend. We however secured them where they were in this way, for that day and the coming night, which brought the elements to our aid in the form of a "hoarse north easter" cold with wind and tolerably charged with rain, which two qualities united so, benumbed the physical faculties of our truant friends, that we could dispose of them as we pleased; we accordingly with all care took them down and placed those which possessed animation in the hive, while the remainder we protected from the storm, and on the first sunny day laid them out *to dry*. Most of them revived and joined their family, but their tranquility was of short duration, for in consequence of their exposure, a dysentery attacked some of the community, and those in health, instead of remaining to protect the weak, ann heal the sick saw fit to decamp, and after enjoying a healthful sailing excursion in the air they went to the hive in which the first swarm had been put. Their stay there was not very tedious, for in a week or ten days and insread of aspiring to the trunk of a choice shade, at ten feet from the ground, their "meek and lowly spirits," led them to cluster on a raspberry bush but a few inches from the surface, from which they were taken and put in a good condition satisfactory to themselves as their quietude and thrift fully attest.

Our last swarm came off in June, and notwithstanding the old adage that "a swarm in June is not worth a spoon" we would refuse an offer of two spoons for this, and more unless they were very nice and very heavy. True, the quantity of honey which they have gathered is not very great, but with our way of managing such hives we think amply sufficient for their supply. We propose burying them, through the winter, a practice which we have adopted in two successive years, and had we continued it the third, our old colony instead of coming to an untimely end, would probably have been in existence now through its descendants.

My method of burying bees is as follows. The operation is performed the last of November. The pit in which they are to be placed is dug considerably larger than the hives, in every respect. On the bottom of the pit two sticks say of scantling, four inches square, are placed that a cavity may be left into which the water, if there is any, may settle and run off without injury to the bees. On these blocks, I lay my floor board, which should be *sound*, and full an inch thick, if more no matter. The top of the hive should be covered with a two inch plank, or if more convenient, a piece of wide thick slab, with the rounding side up, so that if the frost comes out, and heavy rains fall, it may serve as a roof to carry the water from over the hive and turn it into the pit below. Straw is then placed as compactly as may be around the hive, and the earth thrown on so as to form a cone above it, which again operates as a roof to turn the water as it falls. With regard to the depth of burying we can only say, that in our former experiments. we never sunk the top of the hive below the surface. Whether it would do well to do so, we cannot say. Some when burying their bees, drive down a stake near the hive as they say to admit the air, but we do not see why a stake drove down with the earth compactly placed around it, can form an air hole more than the earth itself. And if it could, we do not see the necessity of it, for the object of burying bees, is to put them as much as may be in a state of dormancy through the winter, by which their stock of provisions is lengthened out, to secure them from sudden and often fatal changes from heat and cold and from storm and sunshine.

In selecting a place for burying it is important that a *dry* one should be chosen, and *we* prefer one that is cold to a warm one, and could we regulate the condition of the earth around them, we would freeze it the night after their burial, and *keep it frozen* until time for their exhumation in the spring.

We in both instances of our former burying, took them up some of the last days of March, and all the dead we found from the four hives thus kept, would not half fill a person's hand, and on exposure to the sun and atmosphere, the living were as bright and lively as though they had known no winter, and they gave swarms earlier and more frequently than did the hives that were not buried the coming summer.

We have thus far kept only the old fashioned square hives, but intend the coming winter to have some manufactured after the Griffith and perhaps other plans. We shall do so, not that we have any particular objection to the square hive, but by order to profit by improvements in the article; and to do this, we wish to give each variety a trial.

Our hives have uniformly been made of pine boards, and put together in the closest manner possible, after which we have spread a salve made of bees-wax, tallow and rosin over the joints within and without. This wax gives the hive an odor very pleasant to the bee, in consequence of their wax being a part of its composition. It also closes the small apertures which are most always to be found in bee-hives, against the invasion of the miller, one of the most formidable enemies to bee culture, and where the hives stand out, as they often do, it prevents the storm from beating through openings, which. if no preventives be employed, are always increasing in size. Any sweet wood is undoubtedly good for hives, but economy and durability should be consulted in their manufacture as well as every thing else. Hence the cheapest material that can be used, with the approbation (we can do nothing without this) of those who are to inhabit them, should be. Basswood is cheap and sweet, and we know not why a basswood hive, kept sheltered, would not last for ages. To secure its dnrability it may be planed on the outside and painted, and we know uot why the industrious bees would not enjoy a neat white house, and are not as worthy of such a one as many *biped drones*, who inhabit them. We think the practice of placing boxes on tne hives for obtaining honey a good one, especially when the swarm is thrifty. After the proper season of swarming time is passed, the box may be placed on the hive and prevent future swarms from coming out, and in this way the increase of bees may be saved in the old hive, where there will be honey enough for them, and new swarms come off *earlier* the next season, while as much honey may be obtained from the box as the late swarm would collect, without the sacrifice of their lives. The honey thus obtained is of the purest quality. The aperture in the top of the hive through which they pass to the box should be closed when the box is removed, and remain so until it is replaced the next summer.

Bee pasture.—The man who turns his herds or his flocks upon their own resources for a subsistence, can expect but little profit from them, unless they become highway robbers, (and then the partaker is *worse* than the thief) and enter his neighbor's fields and spoil his crops. Though we have no idea that a community of bees can be restrained by fences, pokes or fetters, yet we do think that their rambling propensities may be checked. The facilities of their labor increase their enterprise, and the *endearments* of their *home* made still *more* dear by—we should have said cultivating flowers for their benefit, but this would sound *weak* to the ears of some *strong minds*, so to such we say *allowing* them to grow.

But the ladies admire flowers—so do *gentlemen*, therefore we have no hesitancy in recommending their culture, especially when so many objects of utility demand it, as in the present case. The mignionette is a beautiful little flower, and when once sown will keep itself in, if the ground is kept clean. It continues blossoming very late, its fragrance perfumes the atmosphere very agreeably, to a great distance, and bees are as fond of it as we are of honey. The raspberry and bramble flowers are favorites with them, and we never heard a person say that they did not like their fruit, so *they* should be set plentifully in the garden and *cultivated*, that they may, *at home*, produce an abundance of flowers for the bees and fruit for man. The strawberry too, that we unitedly love so well, should always be found growing for our mutual benefit in our common gardens. The poppy, though somewhat calculated to lull the drowsy faculty of man to repose, possesses not the least lethargic quality to them, but in the reverse arouses their faculties. Catnip not in mints or juleps, but in blossom, they much admire. We too have tested the efficacy of its healing qualities through strong portions of its tea.

Yours truly, W. B.

Mount Osceola, Oct. 4, 1839.

From the Franklin Farmer.

Hardiness of Durham Cattle.

Having seen in your paper several calls upon the breeders of Durham cattle to state their opinion of the hardiness of this stock, I will state that I believe them to be as hardy as any cattle in the country, and offer the following facts and observations in confirmation of that opinion.

The cow *Garcia*, mother of Oliver, became too fat to breed, and after some unsuccessful efforts by her owner, Mr. Sanders, to reduce her, she was put into the hands of the late Samuel Smith, who thought he could reduce her sufficiently to make her breed, and in case he should succeed, he was to have part of her produce. Mr. Smith kept her a considerable time, and tried, by starvation, to reduce her, and carried his experiments as far as he thought proper. He thought it impossible to reduce her, by starvation, without killing her. I saw this cow frequently whilst in the possession of Mr. Smith, and although her hair grew long, and she looked very shabby, yet she obstinately clung to her flesh.

Mr. Cunningham's large imported cow has become too fat to breed, and has been confined the last two winters and fed upon a very small allowance of straw and a short allowance of water. I saw her in June, in a small lot that had been used as a feeding lot last winter, where there was very little grass; yet she is still too fat.

My cow Burletta, purchased at Mr. Powell's sale, lost her calf on the way to Kentucky, and her bag became injured by becoming hard, since which time, she has given very little milk, and having got fat before she was impregnated, I put her upon a small allowance during the winter, and kept her in summer upon the worst grass that I had. It is proper to remark here, that my grass was tolerably good, and that one summer I kept her with my sheep where the grass was very short; but finding she fattened very fast upon it, I put her last summer upon grass that was long enough but very much shaded, which did not fatten her so fast. She was kept, while giving suck to her calf, most of the time, upon shaded grass, and still she fattened whilst giving milk. I put her and my bull Rifleman last winter into an acre lot, and did not begin to feed them as long as there was enough grass in the lot for a sheep, and when they were fed, their feeder had orders to give them only a fourth of what is usually given to stock cattle, and this was continued until the middle of January, when I sold Rifleman, and as he still remained with me, I ordered their allowance to be increased, though it was not still near as much as would have been given to stock cattle. Rifleman was sufficiently reduced by this treatment, but Burletta lost very little flesh. I knew that Burletta would be in great danger when she had her calf, and tried to reduce her before that time, and part of last summer she was kept where she suffered much for water. I offered her, before calving, (to a gentleman who said if I would send her to his house she would soon get poor,) for half what I considered her value, because I thought the danger and risk of having a calf whilst so fat, would be equal to half her value. She had a calf in September, and is still the fattest cow, (or beef,) that I have ever had on my farm. I will try what poor keep and suckling a calf this winter will do.

Rifleman and Burletta had in their lot an open shed, which soon became too muddy for them to stay in.—The balance of my Durham cattle had no shelters of any kind, except my bull Bertram 4th, who had a few apple trees in his lot, and could get by the side of a stable outside. I am convinced they stand snow, hail, rain and sleet, as well as any cattle in the state.

I have tried keeping cows in houses and out in the open fields, and my cattle in the open fields have always done best; my cattle, when housed, always become feverish and lose condition, no doubt from some improper treatment.

SAMUEL D. MARTIN.

Clarke County, October, 1839.

The Culture of Flax.

Travelling through our hill towns we are pleased to observe that many farmers have turned their attention to the raising of flax. This will be more beneficial to them than the raising of multicaulis or even the white mulberry. We should joy to witness a return of the times when nearly every family had one or more spinning wheels for wool, and likewise the hand wheel for the drawing out threads of fine linen: the sound of this instrument, disagreeable though it may be to some, would restore many of the pleasant recollections of childhood. What daughter of New England that would not be proud to present as a portion of her marriage dowry, counterpanes and sheets and pillows of fine linen spun and wove by her own hand? "She layeth her hands to the spindle, and her hands holdeth the distaff. She seeketh wool and flax and worketh willingly with her hands. She maketh herself coverings of tapestry; she maketh fine linen. Many daughters have done virtuously; but thou excellest them all."

Every farmer who has suitable ground may find it his gain to have a plat of ground for flax. It is easily produced on the same ground that will raise a good crop of corn or oats. It should be prepared so as to be free of the seeds of weeds and wild grasses—before the seed is sown the ground should be stirred and pulverised. The time of sowing is the same as that of the earlier small grains. It used to be the fashion for ladies to spend their half a day or day in pulling flax, because they do their work in a better manner than the other sex often do: it should be so pulled as to preserve evenness at the bottom or roots composing each bundle. It is made to stand in the field in stooks until the head containing the seed becomes sufficiently dry for thrashing, when it is taken to the barn floor and thrashed with the flail after the usual manner of thrashing rye or wheat. The best method of rotting is believed to be the spreading of the flax in thin layers at a distance so as not to interfere with each other, on a common mown field in the month of September: the flax before the cold season arrives will, by the aid of alternate rains and dews and sunshine, become so rotted as to be broken out with ease. The breaking, which separates the shive from the beautiful stran, used to be done with the brake, a heavy instrument, which rises and falls upon the stalk: it may be done either by hand or by water or other moving power. Then follows the swingle knife upon an upright smooth board, which takes away what the brake has left. After this the hetchel, in the hands of the lady spinster, who prepares the article for her wheel, complete the process, giving the hackle the softness of silk, and leaving it ready for spinning.

Many millions of dollars might be saved to the country from the domestic culture of silk; and so might a few millions be saved by the cultivation of flax. The linseed often pays the farmer for his labor. But the substitution of elegant domestic linens for the foreign trash that is now used as linens, would be such a benefit to the country as does not occur every year.—*Farmer's Monthly Visitor.*

Skaneateles Agricultural Society.

The third Annual Fair of this Society occurred in this village on Tuesday, the 22d October. The weather being uncommonly fine, and the occasion being one of great interest to the community, a large collection of people were on the ground; which, together with the exhibitors, formed a spectacle which our village but rarely witnesses. The Society have reason to feel gratified at the interest which appeared to be so generally felt in its objects, and look forward to the day when their institution will demand as much consideration as any other of the kind in the State.

At the conclusion of the exhibition, the Society repaired to the house of Mr. I. W. Perry, where, in company with many of their fellow citizens, they partook of a dinner, which, it is only necessary to say, was offered in 'mine host's' usual satisfactory style. After the removal of the cloth, the Society being called to order by the President, Mr. Silas Gaylord, the following reports were submitted by the Chairman of the different Committees, previously appointed.

The Chairman of the Committe on Cattle, reported as follows:

The Committee for the inspection of Neat Cattle, in submitting their report, beg leave to congratulate the members of "The Skaneateles Agricultural Society," and the friends of rural improvement in this place and vicinity, on the encouraging prospects which the present Fair has exhibited. They are happy in being able to state, that a much *larger*, and far more *splendid* representation of animals came under their review, than they had expected—or than they had ever before witnessed on any similar occasion. In view of this very gratifying exhibition, they would neither do credit to their own feelings, nor justice to the respective enterprising owners of the animals exhibited, should they admit to notice the rapid and laudable improvements which the *gentlemen of the plow and lords of the soil* have made in Neat-stock, during the three years' existence of this Society. It has, the Committee believe, far exceeded the most sanguine anticipations of the first and zealous founders of the institution; and should a like improvement crown the efforts of our industrious farmers for three years to come, it is the opinion of the Committee, that "this fairest notch in nature's map" will stand *second* to no place in our country for the beauty and value of its cattle. "What *has* been done, can *again* be done"—and in this department, *yet* better.

As there was found to be a want of suitable accommodation for so numerous a collection of animals, and consequently an impossibility of arranging them in distinct parcels, the Committee experienced no small difficulty in attempting to form a comparative estimate of their qualities; but after a very careful examination of the *whole*, they would report, as the object of their appointment, the following decisions, viz:

That the best bull, of any breed, was the animal called 'the President'—a full-blooded short-horned Durham, from the stock of the late General Van Rensselaer, of Albany, and owned by Messrs. Gaylord & Fuller.

That the next best, over two years old, was one of the Devonshire blood, belonging to Mr. Wm. Rich.

That the best of any breed, over one year old, was an animal called 'the Splendid'—a full-blooded Durham, from Albany, as the first named, and owned by the same gentlemen.

That the next best, over a year old, was one of the Devonshire grade, belonging to Mr. Henry A. Adams.

That the best bull calf was presented by Mr. David Hilliard—an animal of superior size and beauty, sired by 'the President,' and brought by a superior half-blooded cow, of the well known valuable stock imported by Capt. Nash De Cost.

That the next best was a full-blooded Durham, recently purchased in Ontario county, by Mr. Henry Ellery.

That in respect to the next best, there was little, if any thing to choose between two of Durham grade—the one owned by Mr William D. Layton, and the other by Mr. Silas Gaylard.

That the best cow of any breed, was a full-blooded Durham, called 'the Gipsey,' brought from Albany, and owned by Messrs. Gaylord & Fuller.

That the next best was one of high Durham grade, from the stock of Captain De Cost, and belonging to Mr. David Hall.

That the best two year old heifer, was a grade Durham, of the roan blood, and owned by Mr. Russel Frost.

That the second best, was a Durham grade, from the stock of Captain De Cost, and owned by Mr. Alford Lamb.

That the best one-year old heifer, was a high Durham grade (if not full-blooded) from the stock of H. Baldwin, Esq. of Syracuse, and owned by Mr. George Geddes.

The next best (if not a pure native) a grade Devon, belonging to Mr. Chester Moses, of Marcellus.

That the best heifer calf, a grade Durham, of the Albany stock was owned by Mr. William Fuller; the next best, of the same stock and grade, by Wm. Clark, son of Mr. Foster Clark; and the next best, of the same description, by Mr. Silas Gaylord.

That the best pair of working oxen; were of the Devonshire grade, and owned by Mr. Peter Thompson;* and the next best, of the same grade, by Mr. Ensign E. Austin.

That the best yoke of three-year old steers, were of the Devonshire blood, and belonged to Mr. George Phillips.

That the best pair of two-year-old steers, were of the Devonshire and Durham grades, and owned by Mr. Silas Gaylord: and the next best pair, were supposed to be a grade Devonshire (if not purely of native blood) and owned by Mr. Solomon Moses, son of Mr. Ashbel Moses.

The Committee, in the conclusion, would just remark, that a very splendid three-year-old heifer, with a young and most beautiful calf by her side, from the stock of Messrs. Gaylard & Fuller, was presented, from the farm of Mr. R. L. De Zing, before the *official* inspection commenced; but removed, in consequence of the crowd of animals on the ground, and therefore could not fairly be taken into the account: that said heifer was from the stock of Capt. De Cost, raised by our late worthy citizen Lewis H. Sandford, Esq., and sold to Mr. D. last spring, for $100.

All which is respectfully submitted by the Committee, with the earnest desire that "The Skaneateles Agricultural Society" may yet greatly enlarge the field of its operations, and move on harmoniously, as they have thus far done, until the march of improvement in "the bovine genus" shall be unrivalled by other improvements of the age.

S. W. Brace,
Samuel Rhoades,
Peter Thompson,
} *Committee.*

*In this decision, Mr. Chester Moses, by invitation, took the place of Mr. Thompson in the Committee.

The Chairman of the Committee on Horses reported as follows:

The Committee on Horses would respectfully report, That they have examined the department of stock placed under their inspection; and though they could have wished a greater number of the different varieties upon which to judge, they have reason to be pleased with the few exhibited. No stud horses were on the ground, which the Committee regret, especially as there are one or two in the neighborhood, of fine calibre. Though some spirit exists among our farmers in the breeding and training of horses, yet the Committee think there is not enough. They see no reason why there should not be as much pride and emulation in the raising of horses, as there seems to be in other stock; and they confidently look forward to an early day, when farmers will think as much of excelling in this department, as they do in others.

Best pair carriage horses, J. M. Church. *
Second best, William Fuller.
Best pair four-year-old colts, Alpheus Weller.
Best pair draught horses, Simeon Cuddeback.
Next best, Henry Ellerly.
Best single carriage horse, Geo. Van Dyke.
Best single draught horse, Dorastus Kellogg.
Best brood mare, Holcomb Peck.
Second best, Silas Gaylard.
Best mare (not brood) Dewitt Cuddeback.
Best three-year-old colt, Lewis W. Cleveland.
Best spring colt, James Dorland.
Second best, Silas Gaylord.

J. M. Church,
H. W. Allen,
Joshua Bates,
} *Committee.*

* Mr. Church retired during the deliberations of the Committee on carriage horses.

The Chairman of the Committee on Swine, reported as follows:

The Committee adjudge the
Best boar, of any kind, to A. & L. Thompson.
Next best, to Elijah Parsons, junior.
Best sow, to A. & L. Thompson.
Next best, to Henry Briggs.
Best sow, with not less than five pigs, to William Fuller.
Next best, to Chester Moses.
Next best, to Norman Watson.

A. Wilkinson,
A. Edwards,
D. Hall,
} *Committee.*

The Chairman of the Committee on Sheep reported as follows:

Best full-blood South Down buck, John Snooks.
Next best, Robert Bradford.
Best full-blood South Down buck lamb, L. H. Rhoades.
Next best, Edward Bisbee.
Next best, William Rich.
Best South Down ewes (full-blood) J. Snook and R. Bradford.
Next best, Edward Bisbee.
Best full-blood South Down ewe lambs, Robert Bradford and John Snook.
Best full-blood Bakewell bucks (one year old) Edward Bisbee.
Best 7-8 Bakewell buck (two years old) do.
Best full-blood Bakewell ewe, do.
Best 7 8 Bakewell yearling ewes, do.
Best 7-8 Bakwell lambs, do.
Best full-blood Leicester ewe lamb, Wm. Rich.
Best do do buck, Holcomb Peck. *

This buck is four years old. His wool is not so thick as that of the Bakewell. He is larger, however, and, the Committee think, would make excellent mutton. Mr. Peck exhibited a lamb, a mixture of the Leicester and Bakewell, whose fleece is decidedly superior to that of the buck.

Best half-blood Leicesters, Wm. Dowland.

These sheep, a cross of Leicester and American, are of good size, and appear well.

Best full-blood Merino bucks (three years old) Chester Moses, of Marcellus.
Best full-blood Merino ewes, do.

These sheep are particularly fine, and of good size. One of the bucks has not been shorn for two years; a fact which, in the judgement of the Committee, adds much to his health, protecting him from cold and storms; and enabling him thus to attain more vigor, and produce larger and better stock.

As respects the South Down and Bakewell breeds,

the Committee beg leave to remark, that they are both very valuable. They are well adapted to our climate. The best evidence of the superiority of this mixture, the committee saw in the flock exhibited by Mr. Edward Bisbee—a flock which excelled any other the Committee ever saw.

The Committee, in conclusion, would submit, that they think the farmers of this section deserve great credit for the excellent varieties of blood stock which have come under their inspection. Their industry and enterprises are truly commendable, and chiefly because they offer stimulants which must produce the most gratifying benefits to the community.

DORASTUS KELLOGG,
WARREN HECOX,
HOLCOMB PECK, } *Committee.*

* Mr. Peck, being one of the Committee, stepped aside during the Committee's deliberations on this point.

The Committee on Horticulture and Manufactures, after having carefully viewed the various vegetables and manufactures, beg leave to report, That, although the season of 1839 has not been so propitious in producing mammoth squashes, large ruta bagas, and long ears of corn, as some that are past, yet a respectable number of vegetables were exhibited, and of a size and quality that plainly told that our farmers have not indulged in long naps in the morning, talked politics through the day, or that they have been relying on visionary speculations in wild lands or village lots. Our mechanics and manufacturers, too, have not only been awake, but up and doing; and should any of our worthy farmers wish to gratify his pride and ambition, and at the same time to contribute to the comfort of himself and family, in the purchase of an elegant and easy carriage, which his wife and daughters might well feel proud to ride in—an overcoat, in which he might almost defy the cold blasts of winter—a suit of black, that would become a parson or a monarch—or pantaloons for his sons, that will wear till their legs have outgrown them—he can be accommodated in our village, provided he will give in exchange a little of that scarce, though much talked of "Hard Currency," Draughts on our boasted "Safety Fund," or even his good "Promises to pay." But for the squashes.

The largest mammoth squash was exhibited by Noah Edwards, which weighed 76 lbs.

Second largest, by A. H. Norwood, who exhibited thirteen, weighing from 50 to 70 lbs.

Largest musk-mellon, or West India squash, by J. M. Church.

Largest Pumpkin, by Asa Frost,

Largest mangel-wurtzell, by Foster Clark, who raised 101 bushels on 14 rods of ground.

Largest sugar beet, by Russel Frost.

Largest ruta baga, by Warren Hecox.

Largest onions, by John Latham.

Largest parsneps, by A. H. Norwood,

Largest rohan potatoes, by Abner Edwards.

Largest apples, by Edward Cuddeback.

The best samples of white and yellow corn, by David Hall.

Best sample of red blaze corn, by Silas Gaylord.

Rice and indented corn, by Warren Hecox.

Two carriages, from the extensive establishment of Messrs. Hall and Porter, were exhibited, of very superior style and finish, with the much approved patent cast iron hub of Messrs. Hannum and Delano.

One piece of beaver cloth, one piece of fine black, and one piece of sheep's gray, from the manufactory of D. Kellogg & Co., which, for firmness of texture, and beauty of finish, might safely challenge competition.

One piece of fine and durable domestic carpeting, by Mrs. Asbel Moses.

Fine specimens of patent water-proof leather, by Messrs. Joline & Wells, of Auburn.

A subsoil plough, and garden hoe, by S. Porter Rhoades.

As our jurisdiction extended to all articles, not embraced in other Committees, we reviewed a cage of fine Napoleon Fowls, exhibited by Jerry Burroughs, and three beautiful Wild Ducks, by Chester Moses, of Marcellus.

CHESTER MOSES,
S. PORTER RHOADES,
ALVIN BURROUGHS, } *Committee.*

Among other resolutions passed by the Society, was one tendering its thanks to Mr. David Hall, for the use of his lot for the purpose of exhibition; and another, constituting the Chairmen of the several Committees a body to prepare their several reports, as well as the proceedings of the Society, for publication in the Skaneateles Republican, and Genesee Farmer;—after which the Society adjourned.

Tunisian Cement.—This is composed of three parts of lime, one of sand, and two of wood ashes; these ingredients are mixed up with oil and water alternately, till they compose a paste of the desired consistency. —*Maine Farmer.*

CHINESE CORN.

Albany, Oct. 3d, 1839.

MR. J. BUEL—Dear Sir,—I feel called upon to give some explanation respecting the Chinese Corn, I sold the last spring. From a number of communications received from different persons in the northern and western part of this state, the corn has not succeeded at all. It proves a very late variety; I am satisfied this variety of corn will not answer north of this. I have been charged by some correspondents with *intentionally* committing a deception on the public. *This I disclaim.* No one regrets the disappointment more than myself, and I am willing to render every satisfaction in my power. I am not a practical farmer; I was induced to recommend it to our farmers, from the following high recommendations, and sold it in good faith. I will state the experience of three respectable farmers and unprejudiced men, viz:

Mr. Coombs, of Upper Freehold, N. J. planted last season, six ears of the Chinese corn, which produced him thirty-two bushels of ears. His general crop of other kinds of corn, last year, was nearly a failure, and is decidedly of opinion that this corn will produce one third more than any corn grown in that district, and he this season rejects all other sorts to plant this on his farm.

Mr. Hendrickson, of the same place, had a great proportion of his corn the last season, destroyed by the cut worm, and replanted his field with the *Chinese Corn* which overtook what was left of the other, and was fully matured some time before corn that was up and well under growing way when the Chinese was planted, and produced the best corn in the field—nor had it any treatment different from the common corn. He this season planted ten acres of it.

Mr. Prentiss, of the same place, planted last season, this same corn, from the 16th to the 21st May. It was perfectly matured and ready for husking on the 1st of September, and on the 16th of September, the whole crop was cut down and stacked. His crop, however, was materially shortened by not then understanding the peculiar branching properties of this variety; notwithstanding this, and the severe drouth, his crop was a full average. *Grant Thorburn's* recommendation has been fully before the public.

Under these circumstances, I leave it to the public to say, whether I was not justifiable in recommending it as a new and early variety. Respectfully yours,

WM. THORBURN.

P. S. If it is not asking too much, please add the following, from *E. P. Roberts, Esq.*,

[*From the American Farmer.*]

THE CHINESE TREE CORN.

"*John S. Skinner, Esq.*—Dear Sir—I purchased last spring of Gideon B. Smith, Esq. an ear of the above corn, which had been grown by Mr. Grant Thorburn, of Hallett's Cove, New York, a part of which I planted in a bed in my garden, and as the success which has attended this experiment may, in part, be owing to the preparation of the ground and mode of culture, it may be as well to detail it.

"The bed was at first highly manured with fresh stable dung, then spaded deep. The ground being thus prepared, I had holes dug four feet apart, about four inches deep, in each of which I dropped two grains of corn, the which I covered with a compost of equal parts of spent ashes and rich mould. When the corn first came up it looked yellow, and supposing that it might be owing to too much acidity being in the ground, I sprinkled over each hill about half a gill of equal parts of air-slacked lime and plaster of Paris, which I mixed with the soil by gently stirring the earth around the plants of corn. I subsequently gave it three thorough weedings and hoeings, taking care each time to make my hoe penetrate deeply into the earth, and each time increasing the size of the hill around the roots. As directed by the notice published by Mr. Thorburn, I have suffered the suckers to remain, and from the luxuriant appearance of my corn, and its prolific yield, I have no doubt he has hit upon the right plan of cultivating it.

"Attracted by its fine appearance, I was induced a day or two since to go into the patch and count the number of ears upon some of the hills. Upon one I counted ten, upon another fourteen, and upon a third, nineteen ears. This, being from two grains of corn planted, must be considered a good yield. This corn is a pearly white, of the flint variety, the ears medium size, and I have no doubt will make an excellent crop of corn. It grows to the ordinary height, yields a great abundance of fodder, and is withal an early corn, having been sufficiently advanced two weeks since, for roasting ears. On strong ground, well manured, with suitable culture, I have no doubt it may be made to yield an average acreable product of a hundred bushels. In the fall I will measure my little patch, and give you a faithful account of its yield in *long ears* as well as *nubbins*, by which you will be able to form a correct idea of its adaptation to field culture.

"By some mistake, two dozen ears of the same corn were pulled some days since for table use, and I have no hesitation in saying that it is equally as sweet as the sugar corn, with this in its favor, that the ears are nearly twice the size.

"Whether this corn originated from a few grains found in a chest of tea, as asserted by Mr. Thornburn, I will not pretend to say; but of this I am certain—it is a most excellant variety, and is worthy of extensive cultivation.

"Should this hastily written note be deemed worthy of insertion, you can give it a place, and oblige your obedient servant, EDWARD P. ROBERTS.

"*Mulberry Grove, Baltimore Co. July* 31, 1839.

Cruelty to Animals.

MR. EDITOR—It is gratifying to observe that you have improved the advantageous position you occupy as the conductor of a public paper, extensively read among the moral people of New England, in administering seasonable advice regarding the wanton destruction of useful birds; and the same feeling will doubtless prompt you, in good time, to add remarks against cruelty to animals in general. This sin, so utterly revolting to the feelings of the benevolent mind, and, moreover, so completely calculated to make men ashamed of some of their species, will doubtless be practised so long as our race cover the face of the earth; and hence the necessity that all whose conspicuous stations in life give importance to their advice and personal example, should constantly strive to inculcate the humane usage of all those creatures which a beneficent Providence has placed in the keeping of man, for his convenience and support.

I did not, however, take my pen for the purpose of writing an essay upon this subject; for kindness to animals is a duty which needs no argument to commend itself to every rational being. The mass of mankind, sensible that for wise purposes, the "beasts of the field and the fowls of the air" are committed to their guardianship, feel no other than kindly emotions in all their usage of them. Most descriptions of cruelty, too, wherever it comes under observation, is the result of sheer barbarity—the evidence of unmerciful feelings on the part of those who inflict it: but we have reached a season of the year when a kind of cruelty is practised, which, although very common, is rather the result of custom than of a wish improperly to use the lesser order of created things; and therefore can more easily be brought into disuse. I allude to the practice of exposing the various feathered tribes to the ball of the "sportsman," and permitting them to be fired at for given sums per shot: a practice involving the sin of gambling, and evincing cowardly and barbarous conduct too on the part of those who engage in it. It is as old, perhaps, as New England thanksgivings; but old as it is, it would be infinitely "more honored in the breach than in the observance;" and it is to be devoutly hoped will soon be laid aside, and considered as disreputable as racing, gambling and cock-fighting.

I imagine, Mr. Editor, that the way to overcome all kinds of unnecessary destruction of innoxious birds, as well as a propensity to inflict cruelty upon domestic animals, is to enact no laws upon the subject, but to spread abroad a salutary influence in the community by persuasive means. Parents should inculcate upon their children principles of benevolence, and visit with the severest displeasure any breach of their known wishes upon this subject. They should teach their offspring that an Almighty Power, without whose knowledge "not a sparrow falleth to the ground," for wise purposes, filled the earth with animals to minister to their convenience; and that to give them unnecessary pain, and for no useful purpose, is exerting a power which will mar their happiness, and which they have no right to exert.

The writer has reason to believe that the following anecdote, read to one of his children, will not soon be effaced from the mind of the child, or cease to exert thereon a correct influence.

"An idle youth, living upon the banks of the Loire, rowed his boat to the centre of the river, and then, for the purpose of drowning him, plunged therein his Newfoundland dog. The animal, upon every attempt to regain the boat, had his head borne beneath the waves by a paddle in the hands of his destroyer; but by reason of the strength for which that species of the canine race are so celebrated, was enabled successfully to maintain himself above the surface of the water. Finding his efforts to regain the boat unavailing, he turned for the shore, when his brutal companion, in making a renewed attempt upon him, lost his balance, and was precipitated within the waters. In this dilemma, when human aid was beyond reach, and when his buffetings would soon have been succeeded by the gurglings which precede dissolution, the dog with capacious jaws seized his arm, *and brought him alive to dry land.*"—*Farmer's Monthly Visitor.*

From the New England Farmer.

Review of the Season.

The agricultural year is now drawing to a close. A severe frost occurred on the 20th ult. and vegetation is brought to a stand. The leaves have in a great measure fallen, though some still cling to the trees, like men, after the powers of action and enjoyment are gone, still holding on to life. The Indian corn harvest is generally concluded; and the house and cellars must soon be barricaded against the entrance of those relentless enemies, if so they may be called, cold and frost.

The review of the season, so far as the labors of the husbandman are concerned, present a most emphatical call for grateful acknowledgement. The earth has brought forth abundantly. Almost all vegetable products have been in perfection; and there are ample supplies for man and beast. It is both presumption and folly to suppose that every thing, or indeed that any thing in nature should be measured by our wishes or our notions of utility or expediency; but it would be difficult to point out a season, when a more liberal compensation has been made to agricultural industry and skill.

Early vegetables came forward seasonably and in abundance. The small fruits yielded profusely. Grass has been every where much more than a middling crop; and after the first part of the summer, no season was ever more favorable to the securing of it. Rye and oats through the State, as far as we have heard, have given a great yield. Wheat in our part of the country, has in general produced an inferior crop; but in the western States it was never more abundant. It is said that wheat on the Wabash sells freely at 37 12 cents per bushel; and that it can be easily brought round to New York in sacks holding two bushels, by the way of New Orleans, and delivered free of all charges, at eighty-five cents per bushel. We have been told, perhaps, however, it may be only a traveler's story, and the due abatements are to be made from it, that one farmer in Michigan has this season, on thirteen hundred acres, raised thirty-nine thousand bushels of wheat. Be this as it may, western New York is full of wheat. Dairy produce, too, through the country is abundant.—Indian corn has come in well, and so perfectly has it ripened every where, that many farmers are in the situation of one who said he did not know what he should do for pig corn to feed his swine. The crops of onions, in some of our towns a large product, have it is believed, fallen short of a usual supply. Sugar beets, ruta baga and carrots, were perhaps never better. More young stock has been raised in Massachusetts the current year, than is remembered to have been raised in any previous year. We might go on, but we stop here.

With all this abundance, in the midst of these unmeasured bounties of Divine Providence, perhaps there was never more or louder complaints of hard times and hard pressures; and the commercial world seems to be threatened with a general crash. There is no mystery in all these matters; and we mean, at some future time, to discuss at large the cause of these embarrassments and sufferings. It may not be very palatable to our pride to hear of them, but it may prove medicinal to our morals. Presently we shall hear that neither individuals nor communities, through either avarice or folly, can violate the great laws of nature or providence with impunity. If men will not labor, they cannot be allowed to eat; and if they will not be satisfied with the gradual and moderate, yet ample gains of honest industry and just frugality, but will plunge headlong into every species of speculation and gambling, then, according to the proverbs of the wise, he that maketh haste to be rich shall seldom be innocent; and the folly of fools shall destroy them. All that seems to be lamentable in the case is, that the guilty drag the innocent into the same vortex of ruin. This arises from our social constitution; and is not without its benevolent designs and beneficent uses. Whatever the honest and industrious, however, may be doomed to suffer on account of other men's follies and crimes, there is one good, the greatest of all earthly goods, of which a just providence will never suffer them to be deprived—that is a clear conscience—as the Romans called it, "the mind conscious of right." This is a treasure which the wealth of the world cannot purchase, and for the loss of which the wealth of the world would be a poor equivalent.

H. C.

To the Farmers.

The Commissioner of Agricultural Survey, respectfully requests of the farmers of Massachusetts, and others, who may have it in their power, to communicate to him the results of any trials or experiments which they have made in the application of manures—particularly in the application of lime, gypsum, marl, bone manure, ashes, barilla, fish, sea-wreck, oils of any kind, salt, salt petre, urate, poudrette, peat, muscle bed, marsh mud, compost of any description, or any animal manures.

Information is desired particularly in regard to the points undernamed:

The kind of manure:

The condition of the manure; if lime, for example, whether powdered limestone or calcined; whether hot or effete. If animal manure, whether green or decomposed; single or mixed, &c. &c.

The quantity applied; the time and mode of application; the soil to which applied; the crop and the results; and particularly any results of a comparison between soils thus, and similar soils, otherwise treated.

The expenses attending any such manures and their application, are likewise matters of great importance; and in this case, labor may be estimated at one dollar for a man per day, including board; and the same for a yoke of cattle or pair of horses.

The Commissioner particularly urges this subject upon the attention of the farmers, and earnestly solicits their aid. The matter is of universal and public importance; but he will consider any information given, a personal kindness, which he will do his best to reciprocate.

As the Legislature have made it his especial duty to report early on the subject of the culture of wheat, he requests from those who have attempted the cultivation within the two years past or previously, whether successfully or not, any information they may be pleased to give him on this subject. The points of particular importance in this case are: the kind of seed; the preparation of the seed; the nature and condition of the soil; the previous crop on the ground, and the treatment of that crop; the manures applied, how, in what quantity, and when; the result; if any disease or blight or rust occurred, any circumstances connected with its occurrence, which may throw light upon its cause or prevention; if any insect, of what nature, and any remedy or protection against the evil, if such remedy has been ascertained.

Another point of great importance is the subject of insects or worms infesting or destroying corn or potatoes. The ravages of the cut worm among the corn this year, has been very extensive; and a remedy against them, if any could be found, would prove an immense boon to the country.

On these subjects the Commissioner requests the farmers to communicate with him as early as convenient; by the first or middle of December ensuing, if practicable. He hopes no one will hesitate, through any distrust of his inability to write in such a manner as he himself might wish. Practical men, who have clear ideas of the things they wish to communicate, though their spelling or grammar may not always be correct, find no difficulty in expressing themselves naturally and intelligibly, which is all that is in this case desired.—The subscriber pledges himself to give neither name nor place to the public, in respect to any communication made to him, unless permission is granted to use them; and in respect to any communication which it might be useful to publish, as far as depends upon him, he will do what he can to put it into a condition to meet the public eye.

Communications may be addressed to him at the office of the Secretary of State, Boston, by private conveyance where practicable, or by mail, if otherwise.

He would be glad to hear on any of these subjects from his friends in any of the New England States or in New York.

HENRY COLMAN.
Commissioner of Agricultural Survey of Massachusetts.

Printers favorable to the cause of agricultural improvement, in city and country, are respectfully requested to give the above an insertion in their papers, *pro bono publico.*

October 30th, 1839.

From the New England Farmer.

The Spirit of the Age—Agricultural Papers, &c.

The strongest characteristic of the age we live in, is the spirit of progress and improvement which pervades the community; improvement in every thing susceptible of it;—improvement in art—improvement in science—and, may I not add, improvement in human nature. There exists, in fact, a *progressive excitement*—and so long as its effects shall be to substitute right for wrong, to develop mind and stimulate genius to invention, it is to be hoped it may not subside.

Among the arts and sciences which have felt, in different degrees, the beneficial influence of this improving spirit, is to be named agriculture. (I allude particularly to our own.) The obstacles which have heretofore prevented this great national interest from being as an art better understood, and as a science correctly practised, are fast being removed; aged error is fast receding before the quickened march of mind, the light of science, and the convincing deductions of reason and philosophy;—deep-rooted prejudices, venerated rather for their antiquity than their worth, are giving way to the enriching truths of modern discovery;—twin-fettered ignorance and superstition are fast losing their baleful influence over human affairs, and men are beginning to see and appreciate the might of mind when enlightened by science.

It is well for the prosperity of our country and its every interest, that the improving spirit abroad is effecting a revolution in our husbandry,—a revolution of mind and a revolution of matter;—and, as these mighty agents of good or evil 'never go back,' we can look with confidence for the consummation of the desired reform which has commenced and is rapidly progressing in those parts of our country where light hath reached, reason convinced, and practice demonstrated. Through all the clouds which yet hover around, the attentive observer cannot fail to discern 'the dawning of a brighter day for American agriculture,'—a day which shall give the modern system of farming the ascendancy over the old 'exhausting system,' whose only honor is its age. We do not believe that error can long flourish when right is abroad to combat it:

> "Truth crushed to earth will rise again;
> The eternal years of God are hers;
> While error writhing, lives in pain,
> Or dies amid her worshippers."

The old system of cultivating the earth has little of right in any of its processes;—it was conceived in error and brought forth in ignorance;—the modern system is the offspring of science, and bears on its front the impress of right; it is supported by reason, by philosophy, and by the experience of the intelligent; and as soon as it is generally understood it will be generally adopted; the prosperity of the country demands this; its independence calls for it; and it may be necessary for the perpetuity of our existence as a free nation; for, judging from the sad history of past republics, liberty finds support in agricultural strength and danger in commercial greatness.*

What are the causes which have combined to prevent agriculture from advancing with the other arts and sciences? They are to be found in the prejudice of farmers for ancient customs; in their (seeming) unbelief in the progress of mind and consequent aversion to improvements; in their hostility to what they term '*book farming*,' which may be defined the practising of scientific truths and the recommendations of the intelligent, promulgated through the press. These are the principal causes which have operated to retard the progress of improvement in the rural art. Thanks to agricultural newspapers, they do not now exist to the extent they did a few years since, but their prevalence is still extensive—by far too much so for our national independence,† for the pecuniary interest of the husbandman and for every interest of the community. How shall it bo lessened? *By the dissemination of knowledge among the yeomanry.* 'Knowledge is power'—it confers the power which the farmer needs,—the power of making every inch of land productive, and to produce to the extent of its capability, the power of overcoming by art the obstructions of nature. The knowledge which will give this power, is most easily found and conveyed in agricultural papers. These are within the reach of every cultivator, and should be patronized by all, as well by the indigent as the opulent; for their tendency is, not to make the rich richer at the expense of the poor; but to make the poor happier in an increase of their crops, and show them how to become independant of the rich. There is not a whit of economy in refusing to become a subscriber to one of these publications. He who has but one acre might be learned through this means how to cultivate that so as to treble his usual products, alike with him of his hundred acres; at any rate, either could not fail to be benefitted by a year's reading of a paper, to more than treble the amount of the subscription price. This is proved in the case of those who are subscribers. It is a fact worth noting, that you seldom (I might, probably, say never,) meet with a subscriber to an agricultural paper who does not set a high value upon, or who is in the least dissatisfied with paying a dollar or two a year for its perusal. Such an investment of money is in their opinion the best they could possibly make, as none other to them yields so great an interest. I was told by a farmer—a subscriber to Judge Buel's Cultivator—that a plan which he found in that paper for steaming apples, potatoes, &c. for his swine, had been of a vast deal more consequence to him than a dozen year's subscription money. Such instances are common; in fact it is absolutely impossible, in our view, that some useful information or valuable hint should not be acquired in the course of one year's reading, which will not repay many fold the price paid for the paper. Farmers need to be made aware of these facts, and to be shown through the convincing means of experiment, how falsely founded is their notion of economy in refusing to take a paper devoted exclusively to their interests.

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* I mean to be understood that the freedom of a country agriculturally great, is more secure than that of a country great only in a commercial sense.

† However independent we may think ourselves, we cannot in truth be styled independent, till we cease to rely upon foreign nations for some of the essentials of life.

These vehicles of knowledge are productive of good in another respect; they take with the young---with those whose minds are not yet warped by prejudice nor fully imbued with false notions,---with whom any thing novel and plausible in theory, begets a passion for experiment. I will state an instance better to illustrate my meaning. A farmer of my acquaintance in New Hampshire, was bitterly prejudiced against all other modes of farming than that practised by his ancestors from the earliest generation, and trasmitted unimpaired (and *unimproved*) to him. He was loud in his abuse and ridicule of 'book farming,' about which he talked as learnedly as he could of other matters whose discussion renders something more than a *knowledge of the alphabet* and *two ideas* necessary---declaring, in his wisdom, that it was 'intended for the wealthy and college *larnt*,' and that 'he was'nt fool enough yet to plant his land with *mulberry trees!* and buy corn to live on,' &c. This man had a son---a lad of some nineteen years---who was much inclined to reading, and who had often endeavored to induce his father to subscribe for an agricultural paper, but without effect. The father had the misfortune to be stricken with a dangerous sickness, and the management of the farm devolved upon the son, who had obtained the parents consent to conduct it as he pleased, with the proviso that he should plant no *mulberry trees*. As a preliminary step to the reformation contemplated, the son subscribed for an agricultural paper, and followed 'book farming' to the extent of his means; the swamp was resorted to for materials for compost, (an idea which never entered the head of the father,) lime was purchased for manure; the swine were increased to increase the means of fertilizing the soil; root culture was adopted---alternating crops---manuring by turning in green crops,---(for which last act in particular, he incurred the censure of his neighbors, who were unanimous in pronouncing him a 'fool,' 'notiony,' crack-brained boy,' &c.)---and such other improvements made as he found suggested in his paper.

The beneficial change which had been wrought in the order of things on the farm, was so palpable and manifest as to excite the wonder of the father at his son's unexpected success, and he could not help acknowledging that his prejudices against 'book farming' and agricultural papers were ill-founded and supremely foolish. This farm, under the father's exhausting culture comparatively a desert, and yielding but a poor return for toil, has, by the scientific and skilful management of the son, been made to teem with plenty and well reward for the sweat of the cultivator's brow. I have heard this farmer declare that his yearly profits did not exceed $100, and grumble at his 'hard lot.' Under his son's administration of affairs treble this amount is annually 'cleared.'

This case is no fiction---and if it were, it would be a faithful representation of many unwritten instances of like results.

If agricultural papers, then, are productive of so much good---if their tendency is to 'make two spears of grass grow where but one grew before,' no means should be spared to extend their circulation: let the farmer who is a subscriber, induce his neighbor who is not, to become one also; let agricultural societies lend all possible aid in the cause. I can conceive of another method for advancing my object: In every village there are generally two persons upon whom the citizens bestow extraordinary respect, or a sort of voluntary reverence, on account of their (supposed) superior intelligence---I mean the minister and the physician. Suppose these important personages should exercise the influence they are capable of, to the end of improving the agriculture of their towns, by inducing their fellow citizens who follow the plow, to read---to improve the mind, in order to improve the soil,---could not the great object of enlightening the yeomanry---the hard handed, honest-hearted yeomanry---be furthered by such a praise-worthy movement?

It is, chiefly, to the influence of such papers as the New England Farmer, the Albany Cultivator, the Genesee Farmer, and others of a like character, that our improvements in rural economy are to be ascribed;---that influence needs encouragement---encouragement from States as well as individuals, it needs to be more widely diffused; for, in proportion as it is extended, in nearly that same proportion will the profession of agriculture be exalted in the public estimation, its operations facilitated, and its products increased. J. H. D.

Boston, October, 1839.

From the Maine Farmer.

Culture of Wheat.

Mr. Holmes---Notwithstanding the immense loss the State has already sustained by the insects, I think there is nothing yet developed respecting their operations which need to slacken our ardor in the culture of wheat. The only effectual remedy I have found is in late sowing. Say about the 20th of May for bald wheat. Perhaps the 19th might answer to commence with, if a person had considerable to sow; but no time ought to be lost after the 20th. Have it all in then if possible. I have heretofore dreaded late sowing on account of the rust; but I am induced, from some experience, to hope my fears are nearly groundless on this account, unless the sowing be deferred after the period I have mentioned.

After the precaution of sowing at the proper time, I know of no more effectual means for evading all the ills to which the culture of wheat is exposed than sowing it on a clover ley. I mean other ills than smut, for which we have a rare remedy.

I have about two acres of wheat this year on land that was broken up this spring, about one half of which had been mown two, and the other half three years. The clover, however, last year, was nearly as good on the latter as on the former, and there is no material difference in the growth of the wheat. There will probably be some in the crop of wheat on the account of the difference in the time of sowing.

Another remedy will probably be found in the use of lime; but of this I cannot speak from experience. But to use lime effectually and to insure the desired results will require a long series of accurate experiments, if I had any correct ideas of its operations, I look upon the process of using lime, as similar to that of using saleratus in making bread, unless you have nearly the right quantity you lose the *present* benefit of all you use.

To illustrate my views on this subject I must refer to what I have heretofore stated on the effects of the fermentation of vegetable manures on the growth of grain plants, whether it be from masses of vegetable manure concentrated by passing through animals or otherwise. This manure, under some circumstances ferments violently, and thereby deranges the economy of the plant. And so long as this fermentation continues in excess, it will destroy the roots of the plants as rapidly as they form, and the plant will continue green the whole season unless some of the causes of disease from insects or the atmosphere should destroy it before. I have seen grain plants in this situation two or three months, re-rooting below the surface of the earth and tillering above, and yet hardly arriving at the blossoming state, at early autumn. This however is seldom the case as violent fermentation seldom lasts long. Yet be this period longer or shorter, the organs of the plant which prepare the sap for nourishing the seed, can never be perfectly developed. Now all know, who are acquainted with chemistry, that the fermentation of vegetable juices produces an acid or acids; and that it is the nature of lime to combine with and neutralize its effects and to form a new substance.

Now if you apply lime to produce this effect, and apply too little, the fermentation will continue more or less violently, and the plant continues exposed, though in a somewhat less degree; and if you apply too much, the lime will seize on some portion of the plant and produce more or less injury according to the quantity in excess.

From these statements it will be seen how clover operates in producing such beneficial results. If you turn under a considerable quantity of green clover, the leaves are exceedingly tender, and form but a small part of the substance of the clover, and however violent the fermentation may be, it is soon gone; and seldom if ever returns again. If the plowing should take place before mowing, the leaves would undoubtedly in most cases be decomposed before winter, and the stalks on account of their hard woody fibre would not at any period decompose rapidly enough to produce fermentation in excess. If the plowing took place in autumn the growth of leaves and young stalks, would be very tender; and whatever fermentation they produced, would subside before the blossoming of the wheat, which I consider the most critical period in the life of the plant. The large roots of clover being like the stock, a woody substance would decompose too slowly to produce violent fermentation; and if the ploughing took place in the spring, there would be comparatively little to decompose but the roots.

But there is another effect produced by clover which I ken not; and that is this, it keeps the loam where and so long as it flourishes, loose and mellow, and of a brighter and darker hue; and this state of the soil renders it peculiarly suitable to receive the seed, and give the young roots an opportunity to develop themselves; whilst the gentle fermentation of the stalks or roots of the clover or both, gently expands the warm bosom of the earth, and its genial influence is the best possible to produce fermentation in the plant.

If these statements are consistent with sound philosophy, it will at once be seen that cultivating wheat on a clover ley, is a very simple process, and a very little likely to be disturbed by causes within the control of man; and if the process of using lime is such as I have described, it may be rendered as simple by persevering scrutiny. J. H. J.

Peru, Sept. 9, 1839.

COWS vs. HORSES.

"An idle horse gives no milk and makes no butter."

Having read a communication in the last number of the Cabinet, signed H., on the "cost of keeping an idle horse." I found the sum of sixty dollars as there set down, quite within the mark; and I should not know how to accomplish it for that sum by a long slice; and if H. was to take shoeing and liability to contingencies into the account, it would considerably swell the aggregate account. On examining the subject and looking a little further into it, I find that the cost of keeping "one idle horse," will keep two milch cows comfortably, and that each cow during the year will produce, (including a calf) a clear gain of thirty dollars without any straining of the point whatever. This makes sixty dollars per annum profit from the two cows, which added to the sixty dollars loss sustained by keeping "an idle horse," instead of the cows, at the same cost, makes a difference of one hundred and twenty dollars a year, or the interest of two thousand dollars for one year, and so on from year to year as long as the error is persisted in. I knew a very worthy, industrious, careful farmer, about fifty years ago, who had a snug farm and every thing apparently in good order about him, but he did'nt thrive; when he died it was found he was not out of debt; and his estate was altogether much less than was expected. I tried in vain to account for it, but was unable to do so, till after this long lapse of time; but now I can see through it, and understand it thoroughly. I remember, he kept about a dozen horses, on a farm of about one hundred acres, and he kept them well, too; sleek, clean, nice and well fed; for he was fond of horses, and fine ones too, though he was no sportsman. His horse stable was twice as large as his cow stable. The cows were about six in number, if my memory serves right, at this long distance of time.---Now four or five horses would have been all-sufficient for his necessary purposes, and all over this number was surplusage, as the lawyers say; say seven above the right number, which would represent, in the expense of keep, fourteen cows. As butter in those days only sold for about half as much as it does in these latter times, I put the profit of each cow (including the calf) at one half, say fifteen dollars a year, and fifteen times fourteen is two hundred and ten dollars a year, loss sustained by keeping seven horses instead of fourteen cows.

Now, our schoolmaster, who is good at calculation, says, that an annual sum of $210 put to interest at 6 per cent, and a like sum added to it each year, and the interest accruing annually being put out to interest, that in ten years it will amount to $2,767 96---and that in twenty years it will be $7,724 97---in twenty-five years, $12,070 19---in thirty years, $16,602 21---in forty years, $32,500 10.

Now this shows very plainly why the old man died in debt, instead of having a good farm for each of his children. It is just as plain to me now, as that grass grows; though for a long series of years it was quite inexplicable, notwithstanding I had often thought of it, and tried to solve the mistery; but I now see I always went in the wrong scent, and when you do that you will never catch the game. I now am confirmed in the conclusion that whatever we understand is easy, and that whatever we don't understand is difficult and mysterious. The old gentleman was all his life travelling on the wrong track, to arrive at independence and wealth, and I now see many going the same road on horseback, and there can't be a doubt but they will come out at the same place with the old farmer alluded to; for like causes always produce the same effect under similar circumstances. Some of the old folks who are your readers, will very likely be desirous of knowing who the old farmer was that kept so many horses and so few cows. If that question should be asked, just inform them, that he has been dead a great many years, but that he was my father, and a good father he was too, but he did'nt seem to think that idle horses made no butter.---*Farmer's Cabinet.* Abraham.

From the Maine Farmer.

How to dry Pumpkins.

Mr. Editor:---Perhaps it may not be generally known that the more expeditious, as well as economical method of drying pumpkins for domestic use is in the following manner. Prepare the pumpkin and stew it the same as for immediate use, then lay it on trenches or tiers and dry it (not bake or scorch it) before the fire or in the oven moderately heated, or after baking. Care should be taken after it is dried to keep it as much as possible from damp air in wet weather, otherwise it may mould. All that need be done to prepare it for use is to soak it in milk or water some six or eight hours previous to its being wanted. It should not be spread out like a Jennie cake on the tin, but rolled after the manner of biscuit as it will frequently be necessary to turn it while drying. The above is communicated at the request of a good housewife whom you may call

West Sidney, Sept. 1839. Priscilla.

From the North American Review

HISTORY OF SUGAR.

Within the present century has commenced a revolution, which may prove to be of very different importance from what has yet been generally supposed, in respect to a leading article in the commerce and domestic economy of civilized men. It has now arrived at a stage, at which it furnishes some data for answering the questions, how far it is likely to proceed, and what are to be its effects upon the employment, subsistence, comfort and wealth of nations.

The commercial and economical importance of sugar is of modern date. It was known to the Greeks and Romans as a medicinal substance, but not as food or a condiment. Herodotus informs us, that the Zygantes, a people of Africa, had, "besides honey of bees, a much greater quantity made by men." This was probably sugar, but not brought to a state of chrystallization.—Nearchus, the admiral of Alexander, "discovered concerning canes, that they make honey without bees." Megasthenes, quoted by Strabo, speaks, 300 B. C., of "India stone, sweeter than figs and honey." The Ophrastus, in a fragment preserved by Photius, describes sugar as "a honey contained in reeds." Eratosthenes, also cited by Strabo, and after him, Terentius Varro, are supposed to have meant sugar-canes by "roots of large reeds growing in India, sweet to the taste, both when raw and when boiled, and affording, by pressure, a juice incomparably sweeter than honey."

Near the commencement of the Christian era, sugar was first mentioned under an appropriate name and form. "In India and Arabia Felix," writes Discorides, "a kind of concrete honey is called *saccharon*. It is found in reeds and resembles salt in solidity, and in friableness between the teeth." After this, so learned a man as Seneca fell back into fable on this subject. His account is this: "It is said that in India, honey is found on the leaves of reeds, either deposited there by the dews of heaven, or generated in the sweet juice and fatness of the reed itself." Pliny, whose special study led him to look more carefully into the matter, gives all that the ancients knew about it, and a little more. "Arabia," he observes, "produces *saccharum*, but not so good as India. It is a honey, collected on reeds, like the gums. It is white, crumbles in the teeth, and when largest is of the size of a hazel-nut. It is used in medicine only." Afterwards Archigenes mentioned it, as "India salt, resembling common salt in color and consistency, but, in taste and flavor, honey." Galen calls it *sacchar*, and says it was a "production of India and Arabia the Blest." The author of the "Periplus of the Erythean Sea" includes it, under the name of *sacchrai*, in a list of articles, constituting the commerce between hither India, and the ports of that sea.

If the assertion that sugar was used in antiquity as a medicament only, needed confirmation, we might find it in the fact, that the subject is not mentioned except by physicians and men of universal learning, nor with tolerable precision by the former. None of them allude to any artificial process in the preparation of it. Ælian, about the middle of the second century, is the first who mentions the use of mechanical arts in the extraction of the juice of the cane, and he is likewise the first who attempts to fix the seat of its culture. He tells us, that sugar is "honey pressed from the reeds, which are cultivated by the Prasii, a people dwelling near the mouth of the Ganges."

The Jewish histories make no mention of sugar.—The only sweet condiment, used by the Hebrews, was honey. But it may have been in part "honey made by men;" for the Rabbins understand thereby not only the honey of bees, but also sirrups, made from the fruit of the palm-tree.

During several centuries succeeding the Augustan age, no extension of the knowledge or use of sugar appears to have taken place. It is occasionally spoken of, but to the same effect as by the Greek physicians of that age. So late as the 7th century, Paul of Ægina calls it "India salt," and borrows the description of Archigenes.

At this time a new power appeared on the theatre of nations. The Saracens conquered and occupied western Asia, northern Africa, and southern Europe. Their empire was scarcely inferior to that of Rome, in the period of her greatest prosperity and rapacity. They pushed their conquests to the Garonne and the Rhone, to Amalfi, and the islands of the Levant and the Ægean sea.

To these ingenious barbarians the world is indebted for the modern manufacture and commerce of sugar. It is not known at what time they themselves became acquainted with it. Some authors have asserted that it was not until the thirteenth century, and that the sugar cane and the art of extracting and elaborating the juice, were conferred upon the Europeans by the crusaders, or by the merchant adventurers, who penetrated the Indies after the return of Marco Polo. Each of these assertions has been vaguely received; but a little attention will satisfy every inquirer, that neither of them is true.

We have seen, that several of the ancients, best acquainted with the subject, couple Arabia Felix with India as a source of *saccharum*. Arabian writers of the ninth and tenth centuries speak of sugar as common in their times. In the year 906, the sugar-cane was cultivated, and sugar manufactured, at Ormuz in Caramania, a province of the eastern Caliphate. An Arabian author of the western Caliphate, who composed a treatise on Agriculture about the year 1140, and who quotes another writer of his nation of the year 1073, gives full and precise directions for raising canes and manufacturing sugar. From all which, Loudon concludes, that sugar has been cultivated in Spain upwards of seven hundred years, and probably as much as one thousand years. Salmasius declares, in 1660, that the Arabs had made our modern sugar more than eight hundred years.

One of the Christian historians of the Crusades, in the year 1100, states that the soldiers of the cross found in Syria certain reeds, called *canameles*, of which it was reported that "a kind of wild honey was made." Another, in 1108, says: "The crusaders found honey reeds, in great quantity, in the meadows of Tripoli, in Syria, which reeds were called *sucra*. These they sucked, and were much pleased with the taste thereof, and could scarcely be satisfied with it. This plant is cultivated with great labor of the husbandman every year. At the time of the harvest they bruise it, when ripe, in mortars, and set by the strained juice in vessels until it is concentrated in the form of snow or salt." The same historian relates, that eleven camels, laden with sugar, were captured by the Christians. A similar adventure happened to Richard Cœur-de-Lion, in the second crusade. A third writer, in 1124, tells us, that in "Syria reeds grow that are full of honey; by which is meant a sweet juice, which by pressure of a screw engine, and concreted by fire, becomes sugar." These are the earliest notices of the method of making sugar; and they refer to an apparatus and to processes used in the Saracen empire, and not known at that time, so far as European records show, to be used any where else. At the same time sugar was made at Tyre in Syria, then subject to the Saracens; and, in 1169, that city is mentioned as "famous for excellent sugar."

The island of Sicily was the first spot upon which the sugar-cane is known to have been planted in Europe, though it is altogether likely it was planted by the Moors fully as early, if not earlier, in Spain and Portugal.—That island was conquered by the Saracens in the early part of the ninth century, and was retaken by the Normans at the close of the eleventh; Immediately after that event we find that large quantities of sugar were made there. According to records still extant, William, the second king of Sicily, in 1166, made a donation to the convent of St. Benedict of a "sugar-mill, with all the workmen, privileges, and appurtenances thereto belonging."

If it was the crusaders who brought the sugar culture to Europe, how happened it, seeing that they were collected from all Europe, that no other part of that continent except Spain in the hands of the Arabs, and no other island in the Mediterranean, except Crete, captured in the year 823, by an expedition from Spain, were favored with that invaluable donation? It was not until three hundred years later, that it found its way into Cyprus, Rhodes and the Morea, and this extension was not owing to rural tastes, or the spirit of improvement among the feudal barbarians, but to the commercial enterprise of the Venetians, who had for a long time carried on a lucrative trade in the article with India, Syria, Egypt and Sicily, and were now, by conquest or purchase, the possessors of Crete, and the latter seats of the sugar culture above mentioned.

It may be further remarked that the most important and profitable of the manufacturing arts have never been propagated except by conquest or emigration. The woollen business was established in England by the weavers, fullers and dyers, whom the frantic tyranny of the counts of Flanders and their French allies drove, and the wise policy of the Henries and Edwards welcomed, to England. The cotton manufacture, derived to the Arabians from Hindostan, was by them diffused over Africa, and fixed in Europe; and thence brought by an enterprising operative to the United States. It seems scarcely credible that those half-naked, hard-riding demons, who are so often employed in stripping unfortunate Christians to the skin, are the identical people to whom Christendom is indebted for the comfort of a shirt. Such, however, is the fact. The Arabs conferred upon us that graceful, and now ornamental garment.

It was not until the time of Justinian, five hundred years after silk was known and purchased at enormous prices at Rome, that the silk culture was brought into the Eastern Empire by two Persian monks who had pursued it in China. It was established in Italy by a colony of Greek captives, and carried from Milon to Lyons by a company of Italian workmen, engaged by Francis I. Finally, the Hugenots fled from treachery and intolerance to impart their skill at Spitalfields.—The silk manufacture is more simple and cheap than that of sugar has hitherto been, and yet it required twelve hundred years to travel from Constantinople to London; and it has but just reached our shores after two hundred years more.

It may help us to form some adequate notion of the difficulty with which the manufacturing arts are propagated, if we reflect how hard it was to naturalize the cotton and woolen manufactures in the United States, and how far they still are from that fineness and finish, to which they attain in the workshops of Europe. Yet we speak a common language, are descended from common ancestors, and have always had close commercial and social relations with our teachers. How much greater must have been the difficulty and delay, if we had been strangers in origin and language, and enemies in religion.

The use of alkalies, in the clarification of the juice of the cane, was an invention of the Arabs. The original raw sugar of the east was debased by a mixture of mucilagineous matter, which opposed itself to the chrystallization of the sugar, and determined it to a speedy decomposition after it was chrystallized. To this day the eastern sugar, except where the manufacture is directed by Europeans, or where the product has been converted by the Chinese into what we commonly call "rock candy," is much inferior to that of the west in purity, and in strength of grain. The only clarification which the liquor appears to have undergone in the hands of the eastern manipulators, was by skimming during the processes of evaporation and boiling. And if we may judge from the imperfect and loose descriptions of modern travelers, this is the extent of their knowledge at the present day. They seem to know no other method of clarification in making sugar, and no art of refining except that of making candy.

How the Arabs came to adopt a different method, it is perhaps impossible at this day to determine. Discoveries of this nature do not readily obtain publicity in any country. They are usually involved in as much mystery, and kept under a monopoly as long as possible.—Another character of the Arabian method was the use of earthen moulds, of a conical form, for crystallizing and curing the sugar. In the east, bread, earthen dishes were used for those purposes. These two characteristics of the Arabian method have come to us through the Spanish and the Portuguese; and whence should they have derived them, except from the Arabs, Moors, or Saracens? different names given to the same people from the relations to places and to people, which they successively maintained. *Arabs* (according to a probable etymology of the word) means *westerns*, because this people inhabited the *west* of Asia. When they had spread over the north of Africa, and occupied the remotest Hesperia of the ancient world, the body of their nation was, in respect to the emigrants, *eastern*, and that is the signification of *Saracens*. *Moors* was a name given to them by the Spaniards and other Europeans, from the circumstance of their having conquered and converted the inhabitants of Mauritania or Morocco, incorporated them with their army, and issued immediately from their territory to take possession of Spain, Portugal, part of France and of Italy, Sicily, and the islands of the Ægæan Sea.

We have seen, that the Arabs had the art of cultivating the cane, and converting it into sugar, We know that the sugar-canes, called "the chief ornament of Moorish husbandry," are still cultivated in Spain, and the sugar manufactured. It is likewise made in large quantities on the river Suz, in Morocco, and at Teycut or Tattah, constitutes a leading article of traffic with caravans, which traverse the great desert, and Timbuctoo and other markets of Central Africa. Sugar is still a production of considerable importance in Egypt, particularly in the district of Fayoum, and, until lately, the Seraglio at Constantinople was furnished thence with the nicest refined sugar. In 1560, sugar was imported at Antwerp from Portugal and Barbary. At the same period it was an article of extensive manufacture and Traffic at Thebes, Daretta, and Dangola in Nubia in Upper Egypt. All these are undoubtedly the remains of the Arabian plantations.

The Spanish and Portuguese word for sugar is *azucar*, *acucar*, or *assucar*, and the Arabic, *assokar* or *shuker*. This was derived from the Sanscript *sharkara* or *sarkara*, meaning, in the primitives, *sweet salt*, and giving rise in antiquity to the terms *saccharon*, *sacchar*, *sacchari*, *saccharum*, and "India salt." The Arabic *shuker* is, with slight modifications, a universal term, except in China and the Malayan archipelago; proof enough that we received this article of commodity, and the art of preparing it from neither of them, and that we and all the western nations are indebted for it to the Arabs, and through them to the Hindoos. The difference between the Spanish and the Portuguese word, and other European names, is owing to the circumstance, that the two nations in close contact with the Arabs,

incorporated the article *a* or *al* with the substantive, before which they heard it, as they did in a great many other instances, *algodon*, for example, which is properly, *godon*, *goton* or *koton*. The etymology of *melasses* will further illustrate our position, that we derive the art of sugar making from the Spaniards and Portuguese, and through them from the Arabians. *Melasses*, more frequently, but incorrectly, spelt, *molasses*, is an abbreviation of *mel de assucar*, signifying, in Spanish and Portuguese, *the honey of sugar*.

The Portuguese, under the auspices of Dom Henry, transplanted the sugar-cane from Sicily, as it is commonly supposed, though it might be from Portugal itself, to the islands of Madeira and St. Thomas. Herrera has raised great doubt of the historical correctness of the idea, that Sicily was resorted to at that time for sugar-canes. He declares positively, that they were carried to the Africo-Atlantic islands "from Granada, where they had been planted by the Moors."

It has been a subject of much dispute, whether the sugar-cane was introducod into America from Europe, Asia or Africa, or whether it is indiginous here. The former is the opinion of all the historians of the old world, the latter of all the explorers of the new. Edwards reconciles them by supposing that both are true, which seems to be the most reasonable conclusion. It would be as absurd to suppose that the early European settlers of America would fail to carry that plant, with whose great value and agreeable uses they had just become well acquainted, to their new abode, especially when they were growing and were worked up in great quantities in the Canaries, whence all the adventurers were accustomed to take their departure, as it would be to question the authority of the writers, who positively affirm this fact. On the other hand, it would be an extravagant stretch of incredulity to doubt the clear testimony of the many eye witnesses, who declare, that they found the native sugar-canes in Guadaloupe, St. Vincent, Brazil, on the La Plata, and on the Mississippi; or the demonstration of Cook and Bougainville, who brought a native and valuable variety from the Friendly Islands, to the British and French West Indies.

It is asserted by some, that the plant was carried from Brazil to St. Domingo, having been previously brought to the former from the Portuguese kingdom of Angola, where it is still cultivated, or from the Portuguese possessions in Asia, where Vasco de Gama and his successors, the conquerors of a great part of India, found sugar-cane in abundance. Whencesoever the sugar-cane came to St. Domingo, or whether it came at all, it is certain, that a company of sugar makers were carried from Palm Island, one of the Canaries, to establish a manufacture in that oldest, except Brazil, of the American settlements.

It is an interesting fact that the art of sugar making, propogated, we mus conclude, both *east* and *west* from Asia, now completed, in opposite directions, the circumnavigation of the globe; for, a few years after this establishment in St. Domingo, Cortez found, that both sirup and sugar were made from the stalks of maize, by the natives of Mexico, and sold in their markets.—The Aborigines of Virginia, and probably of all North America, had the knowledge of making sugar from the juice of the maple. From them the Anglo-American settlers undoubtedly derived it.

In 1643, the English began the sugar business in Barbadoes, and, in 1648, the French, in Guadaloupe.—The Dutch, expelled from Brazil, where they mannfactured sugar in the sixteenth century, took refuge in Cuianao, St. Eustatia, and other islands, and finally, upon the exchange of New Amsterdam for English Guiana, in Surinam. To all these they transferred a branch of industry, which they had learned to practice, and knew how to appreciate.

It is not known at what time the use of sugar began in England. It was probable as late as the fourteenth century, At that time it begins to take, in trope and verse, the place which honey had occupied, without a rival, since Moses and Homer. Chaucer uses the epithet "sugreed over." The chamberlin of Scotland, in 1329, speaks of leaves of sugar sold in that country at one ounce of silver, equal to four dollars of our money, per lb. In 1333, white sugar appears among the household expenses of Humbert, a nobleman of Vienna, and it is mentioned by Eustace Deschamps, as among the heaviest expenses of housekeeping. George Peale tells us, that sugar with wine was a common drink in the sixteenth century. It did not become an article of ordinary consumption until the beginning of the seventeenth century. At that period, the Venetians imported it from Sicily and Egypt, and probably produced it in Cyprus, Crete and the Morea. One of their countrymen, about two centuries before, had invented the art of refining, for which he received the sum of one hundred thousand ducats, equal to three or four hundred thousand dollars at the present time. Previously to this they had pursued the Chinese method, and made candy only. This inventor adopted the cones from the Arabians, and probably obtained from their manner of clarification, the idea, upon which he so far improved as to effect, at last, the complete purification of his product. It was from the Venetian refineries, that France and England procured their small and high priced supplies in the fourteenth and fifteenth centuries.

By the creation of sugar plantations in the Portuguese and Spanish islands of Madeira, St. Thomas, and the Canaries, the stock was considerably increased.—We begin then, for the first time, to have accounts of the number of sugar mills, and the quantities manufactured. Thus, we are told, that in the islands of St. Thomas there were, in 1524, seventy mills, making, on an average, 66,428 lbs. each, and upwards of two thousand tons in all. It was from those islands, that Europe was for half a century mainly supplied. But the rapid exhaustion of the soils seems inseparable from the cultivation of the cane with the labor of slaves and serfs. It is reasonable to suppose, that this was the great cause of the successive migrations of this business westward, and its early decline in Sicily and Spain, and the Africo-Atlantic islands.

In St. Domingo there were, in 1518, twenty-eight sugar presses. In about half a century, this island succeeded to the inheritance of the markets of Europe, which it monopolized and enlarged during a century and a half, exporting sixty-five thousand tons in one year, being about 100,000,000 lbs. surplus, after suplying the demand of the mother country. In any possible situation of that island, it could not have maintained until this time, that monopoly, and that rate of production. At the beginning of the present century, the entire exportation from the West Indies, and American settlements of every description, was 440,800,000 lbs.; now it is 400,000,000 lbs. from the British West Indies alone, and 700,000,000 lbs. more from Brazil and the Spanish, French, Dutch, and Danish colonies. In 1750, only 80,000,000 lbs. were exported from the British West Indies, one-fifth of the present export.

Of course the consumption of sugar has greatly increased during the last half century; and it seems destined to an indefinite extension. It is so nutritive, wholesome, and agreeable, that there can never be a limit to its use, except in a prohibition or an inability to buy it. Men and nations differ widely in their tastes and habits in respect to most kinds of food, sauce, and drinks. Neither wheat, rice, flesh, nor potatoes, can command unanimous favor No article of housekeeping, save sugar, can be named, which is universally acceptable, to the infant and the aged, the civilized and the savage.

The population of the British West Indies is equal to that of Cuba; but their consumption of sugar was, in 1827, only 13,000,000, lbs, eighteen pounds to an inhabitant, while that of Cuba was, in the same year, 44,000,000 lbs., or sixty-three pounds to an inhabitant.—This difference is presumed to be owing to the predominance of the free over the slave population, in the latter islands. The ratio of the free population of Cuba to the slave, is three to one; but in the British West Indies, one to three. This proportion would give the difference of the quantities of sugar consumed, with almost entire accuracy.

The population of all the sugar growing countries in the world, is about 468,000,000. It is not to be presumed, that each individual of this number consumes as much as the luxurious West Indian; but it will not be extravagant to suppose, that they all consume as largely as the Mexicans. Mexico, by the lowness of wages, and the ignorance and poverty of the mass, may be considered as a fair representative of the nations, inhabiting that belt of the earth producing sugar-canes. She consumes, according to M. Humboldt, ten pounds to an inhabitant, all of domestic production. We thus determine proximately that the consumption of the other Hispano-American nations, and of the swarms which people the east, is 5,000,000,000 lbs. per annum, nearly four times as much is used in Europe and the United States. Great Britain consumes 400,000,000 lbs., about twenty-four pounds to each inhabitant; the United States 200,000,000 lbs., sixteen pounds to an inhabitant; our domestic production being estimated at 50,000 hhds. or 50,000,000 lbs. In Ireland, the consumption is 40,000,000 lbs., five pounds to an individual. In Russia it is much less, being but a little more than one pound to a person, and 60,000,000 in the whole, unless the article be introduced inland from China, by way of Kiachta, as to some extent it probably is. Of the quantity consumed in Russia, we suppose 8 millions of pounds to be beet sugar. Belgium consumes 30 millions of pounds, seven pounds to an inhabitant, of which 5 millions of pounds are beet; and Prussia, Austria, and the rest of Germany, 200 millions of pounds, of which 20 millions may be beet. This is four pounds and a half to an inhabitant. Holland consumes 50,000,000 lbs., sixteen pounds to an inhabitant; Spain, the same, which is but four pounds to an inhabitant; France, 230,304,549 lbs., seven pounds to each inhabitant. Of this, 107,905,785 lbs were, in 1836, made from beet roots. With the exception of a few manufactories in Italy, the above figures show the extent of the beet sugar culture. Thus we have, for the total consumption of sugar in Europe, 1,267,000,000 lbs., of which 140,000,000, or 62,500 tons, are beet sugar; and, for the total consumption throughout the world, 6,267,000,000 lbs., worth, at 6 cents a pound, $375,020,000.

The cost of the production of cane sugar varies. It depends mainly on the price of labor. In the east, where labor is from 6 to 10 cents a day, sugar costs to the manufacturer from 1 to 2 cents a pound. In the Americas, where, with the exception of the Hispano. American republics, no wages until very recently have been paid to the laborer, the cost is 3 cents a pound.—The price for exportation will average 3 1-2 cents in the East Indies, and 4 3-4 in the West Indies and other sugar-growing portions of America. These prices include the profits of the native or resident merchant.—The average cost to the importer, exclusive of duty, is from 5 to 5 1-2 cents for muscovado and brown sugar, and 7 to 8 cents for white. These prices include freight, insurance and commissions. Add thereto the respective custom house duties, and we shall have the wholesale prices of every country. Thus the duty in the United States is 2 1-2 cents on brown sugar; add this to 5 and 5 1-2, and we have 7 1-2 and 8, the average wholesale prices of New York, Boston and Philadelphia.—The duty on clayed sugar is 3 1-2 cents; add this to the above price, and we have 10 to 12 cents, the ordinary price of white clayed sugars. In France, the duty on brown sugar is 4 1-4 cents; in England, it is 4 3-4; consequently, in the markets of those countries, they cannot be at less than from 9 to 10, and 10 to 11 cents respectively. The grocers put on 2 cents more, so that that the article costs to the consumer,

In the United States,	from 9 to 10	cents.
France,	11 to 12	"
England,	12 to 13	"
Hamburgh, a free port,	7 to 8	"

Thus, sugar costs the consumer, in the United States, double the price of importation; and in France and England, two and a half times that price. In Prussia, the duty is the same as in Great Britain; but in Russia, according to the price the article bears there, it cannot be less than 7 1-2 cents per pound.

The consumption of molasses is trifling, except in the United States and Great Britain.—There is some vent for it on the continent, to be used in curing tobacco; and in England it is used for making a bastard sugar, and for cheap preserves. In the United States alone, it is used for the table. The quantity of refined sugar consumed in the United States is small, compared with the brown. It probably does not exceed one-tenth; while, on the contrary, in France it constitutes four-fifths of the entire consumption. The proportion is less than this in Great Britain; but it is much greater there, and in Europe generally, than in the United States.—Brown sugar contains, on an average, three to five per cent. of dirt; of course, molasses cannot be *more* pure. The consumption of this last, in the United States, is about 150,000,000 lbs. annually; but probably more than half of it has heretofore been distilled into rum, producing more than 10,000,000 gallons per annum.

The sugar-cane appears to have been, in all ages, a source of beverage in some form. Lucan describes the eastern recruits of Pompey's army thus,

—"quique bibunt tenera ab arundine succos."

The Jews had an inebriating liquor which they called *sachar*, from which some etymologists, in fact, derive *saccharum*, but we think erroneously; because it is certain, that the ancient sugar, with its name *sacckaron*, came from India, and equally certain, that the Jews knew not sugar. It is not improbable, however, that some relationship exists between the Hebrew *sucar*, and the Hindoo *sharkara*, or *sarkara*; inasmuch as the drink, expressed by the former, was the juice of a *reed*, and, before fermentation, sweet. Bruce found the cane used in Egypt and Nubia for making a drink, by concocting it in water. The inhabitants of Angola have made a similar use of it from time immemorable; so too did the ancient Ethiopians. The people of all countries are fond of chewing and sucking sugar-canes. The laborers every where grow fat towards the maturity, and during the cropping of the sugar-cane. The Arabian horses were observed to grow fat in Spain by feeding on the pulp, after the juice was expressed. Sugar, eaten in considerable quantities, has the same effect. The king of Cochin-China causes his body-guard, consisting of a hundred men, to feed mostly on sugar and sugar-canes, in order that they may appear more stout and handsome than other troops. Many aged persons have found great benefit from the free use of sugar. It tends to render the skin and cartilages soft and supple. It might be excellent nourishment for patients submitting to experiments upon distorted limbs or spine. It is slightly laxative, and was valued on that account by the ancient practitioners. Dissolved in water it is an anti-

dote against arsenic, corrosive sublimate, verdigris, blue vitriol, and other mineral poisons, and also those of fish, as lobster, dolphin, congor eel, &c. "Sugar," says the author of "Diet and Digestion," "seems to be the first support of vegetable life, and it is well known to be the principal food of young animals. It perhaps yields more chyle than any other constituent of plants." Sugar, like common salt, is useful after excess in eating. It precipitates digestion, particularly with or after fruits; it excites the secretions of the digestive organs, and is good for old and inactive stomachs. There are many successful examples of aged persons taking it as their principal food during many years. Dr. Rush entertained a high opinion of its dietetical qualities.

But, in proportion as sugar is wholesome, alcohol, which is made from the same principle in plants, is deleterious. The solid and nutritious part of milk is sugar; but, when fermented and distilled, it becomes one of the most inflaming of ardent spirits, i. e. *burning* spirits.

The origin of the excessive importation of molasses into this country, and of the excessive use of distilled spirits resulting from that importation, are among the most instructive matters in our history.

It is but little more than a century since that importation began. In the French West Indies the sugar manufacturers used to throw away their molasses, as indeed they did at first in Jamaica, and as they do to this day in the islands of Bourbon and Java. The New Englanders, particularly in and about Boston, taking note of this circumstance, induced the French, for a trifling consideration, to preserve this residuum, and deliver it on board the colonial traders. Arrived at Boston, and other ports, the adventurers entered the article free of duty, and it was converted into New England rum. In a few years, the business so enlarged itself, that the trade was extended to the Dutch and Danish colonies. In exchange, our people gave to the Frenchmen and others, horses and mules to work their sugar mills, lumber for their houses, and fish and other provisions for the plantations. In 1715, a few years after the commencement of this traffic, the British island colonies complained of it to the government, as diminishing the demand for their products, and disappointing them of their wonted supplies. Hereupon a fierce and protracted contest arose betwixt the island and continental colonies, which was not terminated until 1793, when the islands prevailed, and a duty of 6*d*. a gallon was laid on molasses, and 5*s*. per cwt. on sugars, imported into the continental colonies from any foreign port or place. The penalty for violating the act was to be the forfeiture of vessel and cargo. But the New Englanders who had disputed every inch of the passage of the act, seem never to have thought of submitting to it after it was passed; and they continued the old traffic, cluding the duties and defying the law. A British fleet was sent to enforce it, and a state of irritation arose, in which the parties all but came to blows. In fact, this did never cease, from that time down to the revolution; and the famous act for raising a revenue in America was called, in the language of the day, "the sugar and molasses act."

The principal reasons alleged for the trade were, that a large supply of rum were indispensable to the continental colonists for carrying on the Indian trade and the fisheries. These reasons have ceased. Rum has nearly finished its mission to the poor Indians; and the fishermen, we believe, generally go upon the temperance plan. The real root of the matter was, and is, that no other people, since the world began, were ever furnished with so great a quantity of exciting liquor for so small a price. The custom house duties, in other countries, either kept out molasses and rum, or admitted them with so heavy conditions, that they could not be afforded in such abundance as they have been here. Ardent spirits were unknown, except as a medicine in the druggist's shop, until the cane-sugar and molasses makers of the West Indies, brought rum into the world. The taste once formed, demand arose for brandy, perry, gin and whiskey. Anderston, in his 'Origin of Commerce,' remarks: "The consumption of rum in New England is so great that an author on the subject asserts, that there has been 20,000 hhds. of French *molassas* manufactured into rum at Boston in one year, so vast is the demand for that liquor." Sir William Douglass, in a work printed at Boston, in 1755, tells us, that "spirits, (spiritus ardentes,) not above a century ago, were used only as officinal cordials, but are now become an endemical plague, being a pernicious ingredient in most of our beverages."

The duty of two cents on brown sugar, in the United States, was originally laid for revenue, though it must be considered high for that purpose; being nearly fifty per cent. on the cost. At the time of the purchase of of Louisiana, it was advanced to two and a half cents, probably for protection. During the last war with Great Britain, it was doubled, being then five cents.—At the peace it was fixed at three cents, avowedly for protection. In 1832, it was brought back to the rate of two and a half cents; and this is maintained for the encouragement of the sugar planters of Louisiana, Florida, Arkansas, Mississippi, Alabama and Georgia. The article is afforded in the New Orleans market, and on the Louisiana plantations, at five to six cents a pound. The planters have repeatedly declared, that, at less prices, the business cannot be sustained. The cost of production, when this industry was most flourishing, was wo and a half to three and a half cents, exclusive of the interest on the investmrnt.

We have now surveyed the field of competition in which the beet sugar business must take root, if that be its destiny in this country. It is certain that the high hopes conceived of it have suffered considerable abatement from experiments made, and views put forth in Great Britain. These it is our duty to weigh, and to determine how far they ought to influence the resolutions of North American cultivators and capitalists.—But it is necessary that we should first examine, with some minuteness, the history and present condition of beet sugar industry.

It is now nearly a hundred years since Margraff, a Prussian chemist, residing at Berlin, made the discovery that the beet contained a good crystallizable sugar. His attention was first drawn to the subject by the saccharine taste of the beet, and the crystalline appearance of its flesh when examined with a microscope. Having cut the beet into thin slices, he dreid perfectly, and then pulverised them. To eight ounces of the powder he added twelve of highly rectified spirits of wine, and exposed the mixture to a gentle heat in a sand bath. As soon as the liquid reached the boiling point, he removed it from the fire, and filtered it into a flask, which he corked up and left to itself. In a few weeks he perceived that crystals were formed, which exhibited all the physical and chemical properties of the sugar-cane's.—The alcohol still contained sugar in solution, and a resinious matter, which he disengaged by evaporation.—Having submitted several other vegetable substances (as parsneps, skerret, and dried grapes) to the same treatment, he obtained sugar from each. In 1747, he addressed to the Academy at Berlin, a memoir, entitled 'Chemical Experiments, made with a view to extract genuine sugar from several plants which grow in these countries.'

Margraff solved the important problem, that genuine sugar was not confined to the cane. After this, he enlarged and varied his experiments, but did not invent means of making sugar from the new material on a scale sufficiently large to render it an object of interest to capitalists. Yet he seems to have had a prescience, that his discovery would one day assume importance.—He commended it to the attention of the Prussian cultivators, and particularly to the small farmers, as offering a new and beneficial branch of agriculture.

Margraff died in 1782. He was a member of the Academy of Berlin, Director of the class of Natural Philosophy, and Fellow of the Academy of Sciences at Paris. His works were collected and published in two volumes, octavo, in French, 1767. A German translation was published at Leipsec, the following year.

It was Achard, also a chemist of Berlin, who discovered the method of extracting the sugar from the beet on a large scale, and at a moderate expense. He first announced this result in 1797. In 1799, a letter from him was inserted in the *Annales de Chimie*, in which he detailed his method. He there states the cost at 4 3-4 cts., the pound of Silesia,—or about 6 cts, the pound avoirdupois,—without counting the benefit to be derived from the residiums. He also expressed the opinion, that, with these included, and with some improvement in the processes, this sugar might be produced at half that price. This announcement caused a great sensation in France. It engrossed the attention of the Parisian world; eliciting, alternately, ridicule and admiration. The high price to which sugar had risen in France, in consequence of the capture of nearly all her colonial possessions, gave something more than a speculative interest to the ideas of Achard. The National Institute appointed a commission to examine the subject. The result of their investigation was, that the cost of raw sugar, of the beet, would be 16 cents per pound. The price of sugar was such, that even at that rate, a very large profit would have been cleared; but this consideration was not sufficient to induce many persons to take the risk of a peace with England, supposed at that time to be approaching. Only two establishments were formed; one at St. Ouen, and the other at Chelles, in the environs of Paris. Both of them were failures; partly from the bad quality of their beets, and partly from the ignorance and inexperience of the conductors and workmen. With them went down the high hopes, which had arisen, of this new branch of industry in France.

It is difficult to say, whether these hopes would ever have been resuscitated, if political events of an overruling nature had not supervened. By the Berlin and Milan decrees, all colonial articles were prohibited, and that famous "continental system," so wide and wild in its design, but so important and permanent in its effects, was established. From that time, 1806, chemists and economists applied themselves with renewed zeal to the search after an indigenons source for the supply of sugar. It was thought, at one time, that the desideratum had been attained in the production of grape sugar, or sirup; of which, in the course of two years, many millions pounds were made. This sugar, although very abundant in some varieties of the grape, raised in a southern latitude, possesses only two-fifths of the sweetning power of the cane and beet sugar. Nevertheless, sugar being at about one dollar a pound, a great number of manufactories were erected, and science and industry were tasked to the utmost, to improve the processes, and to bring it to perfect sugar.

In this state of things, it was announced that beet sugar manufactories, had been all along carried on successfully in Prussia. It was declared, that from 4 to 6 per cent. of sugar was obtained from the beet, besides several other valuable matters. Other German chemists had instituted experiments, and published results substantially the same as Achard's. At length, in 1809-10, experiments were recommended in France, particularly by M. Deyeux, of the Institute, who had reported on the subject in 1800. The experiments resulted in the production of a considerable quantity of sugar, both clay and refined, which, as specimens, served to revive and increase the confidence of France in this source of supply. No more than 1 to 2 per cent. was obtained; the beets being of a bad sort, and raised in the neighborhood of Paris, where a vast deal of ammoniacal manure, hostile to the production of saccharine, is used.

In 1811, M. Dappier, of Lille, worked about 15 tons of beets, from which he obtained 2 1-2 per cent. of sugar. In the winter of the same year, an experimenter at Paris succeeded in obtaining 4 1-2 per cent. from white beets raised at a considerable distance from Paris, and without any manure. This was the first essay in France which approximated to the results of Archard. It was made by M. Charles Durosne, and was detailed in the *Moniteur*. It demonstrated how faulty had been their selection of sorts, and the mode of culture. At this time, Achrad had published, in German, an extensive work, in which he had treated with minuteness every department of the business, from the raising of the seed to the refining of the sugar. This treatise contained not only Achard's experience of thirteen years, but also accounts of the manufacture of beet sugar, on a grand scale, by other persons in Prussia. The result of these enterprises, as reported by a commission appointed by the Prussian government to investigate the subject, was, that in the case presented to their consideration, 60,800 lbs. of sugar were manufactured from 1,000,000 lbs. of beets, which is 6 pounds 1 1-4 oz. per cent., costing for cultivation and manufacture, 6.6 cents a lb. and selling at 16.17 cents. The profit was stated at 136 per cent., without reckoning 27,883 galls. of vinegar, worth $1,987 25; 155,400 lbs. of feed for beasts, worth $97 16; and after deducting $1,382 25, for the greater supposed expense of refining beet sugar. This, however, has since been recognized as an error; beet sugar being, in fact, the most profitable to the refiner, by reason of the superior strength of the grain, and of the deterioration which the cane sugar undergoes by fermentation and decomposition during long voyages and storages, before it reaches the pans of the refiners. This loss is estimated, in France, at 14 per cent. on East India sugar, and at 7 on West India.—The British custom house allows 1 per cent. a month for the wastes on bounded sugar.

Such was the result of the operation in the manufactory of the Baron de Koppy at Krayn, near Strethein, in Silesia.

Another course of experiments was instituted by Dr. Neubeck, the royal commissioner, who obtained the following result, working upon a material of one million of kilogrammes.

Sugar, 101, 472 kilg.'s at 16.72 cts. a pound,	$16,985,05
Spirits of wine and vinegar, made from the molasses and pulp,	8,083,38
Mash, used for feeding and fattening animals,	189,53
Total,	$25,257,96
Expense,	7,892,28
Nett profit,	$17,365,68

Mr. Achard's sugar, according to the report of Dr. Neubeck, cost 7.7 cents a pound, and yielded, at 16.72 cents, the price of sale, a profit of 8.92 cents a pound. Their beets yielded 4.6 per cent of sugar.

The experiment at Lille (M. Drappier's) was less successful. He obtained only 1.3 per cent. of refined sugar; and, although this merchandize was then at 35 cents a pound, this price hardly covered the expenses of production, without, however, counting the residuums.

In January, 1812, Napoleon issued a decree, establishing five chemical schools for teaching the processes of beet sugar making, detailing one hundred students from the schools of medicine, pharmacy and chemistry, to be instructed in those establishments, and creating four imperial manufactories, capable of making 4,408,000 lbs. annually. Munificent premiums were also decreed to several individuals, who had already distinguished themselves by a successful application to this new branch of industry. A considerable number of manufactories were immediately added to those already existing in France; and, in the season of 1813, a large quantity of sugar, both raw and refined, was produced. A notable improvement was introduced by M. Mathieu de Dombasle, a learned and experienced cultivator and chemist. It consisted in applying to the beet juice the colonial process of depuration, appropriately called in France *defecation*. This was, in fact, very analogous to the improvement which the Arabs effected in the oriental method. Achard used sulphuric acid in this operation, and for the crystallization, broad dishes, not unlike those said to be used in China at this day. The colonial process of defecation by lime, is now nearly universal in France, as is likewise the substitution of the mould or conical pot, for the crystallizers of Achard.

Such was the prosperous condition of this manufacture, when the disasters of Moscow brought upon it an uncertain political future, the bane of all great industrial enterprises. Confidence and energy gradually yielded to fear and discouragement. A faint and fitful struggle was maintained during another year, until the Cossacks, quartered in the sugar mills, and the allied artillery seizing upon the beasts that moved them, gave the manufacturers the *coup de grace*. The officers billetted at their houses, became, from curiosity, their principal customers, being struck with the brilliancy and purity of this unexpected product. After the final overthrow of Napoleon at Waterloo, the price of refined sugar settled down at 12 cents a pound, and raw at 7. Still, to the surprise of all, two beet sugar manufactories did survive the shock of this tremendous reverse, more useful to this industry, and to mankind, than all its preceding prosperity; because it demonstrated, what never could have been done under the unnatural stimulus of the "continental system," that there was an intrinsic value in the new industry, rendering it capable of independent existence, and raising it out of the reach of accident, political enmity, or caprice. The establishments which survived were at Arras, in the Department of the Pas de Calais, and at Pont a Mousson, near Nancy, in the Department of the Meurthe.

After the retirement of the allied troops in 1818, the government began to turn its attention to the encouragement of an industry, which had struggled meritoriously and successfully, to preserve a boon to the French nation. Many eminent and public spirited citizens raised up establishments, more perhaps to give the benefit of experiments to their countrymen, than with a view to profitable investments. Men of genius and profound research occupied themselves with elaborate experiments, and published their results. Among the most important were the Count Chaptal, who detailed, in Memoirs, on the subject, and in his 'Agricultural Chemistry,' the experience of many years as a cultivator of beets and manufacturer of sugar; and M. Dombasle, who did the same, with admirable clearness and precision, in his work entitled 'Facts and Observations relating to the Manufacture of Beet Sugar.' The later, with the prospect of many more years of usefulness, is still at the farm school at Roville, near Luneville, in Lorraine, devoted to agricultural and chemical studies, and imparting the results of his long experience, fertile genius, and assiduous application, through his publications, which go to all parts of the world, and to pupils, who come from every nation. As an intelligent and industrious operative, M. Crespel Delisse, of Arras, is worthy of honorable mention. This gentleman was originally a laborer. He became the foreman of the first beet sugar manufactory at Arras. The proprietor, who had invested an immense capital, sank in the general wreck of 1814-15. M. Crespel succeeded him, with the great advantage of having his fixtures at about one-fourth of their real value. This was one of the two establishments which survived, and it continues to this day to be one of the most extensive and successful in France. M. Crespel is interested as part or sole proprietor in seven or eight other farms and factories. He has received the gold medal of the Society for the Encouragement of Agriculture, at Paris, and the honors of knighthood from the French and other European sovereigns.

The method in general use in France is to crush, or grind, the beet with an instrument called a *rasp*, though its functions would be better described by the word *grater*. It is cylindrical, and revolves four hundred or more times in a minute. This reduces the beets to a very fine pulp. They are then pressed in hydraulic presses of great power, and the juice defecated, evaporated, boiled, and filtered, in very much the same manner as the cane juice in the colonies. The great difference is, that the beet sugar machinery has been rapidly improved, and the cane planters have begun to avail themselves of the improvements. There is, however, another method of extracting the saccharine, which dispenses altogether with grating and pressing. This is called *maceration*. It was first proposed by Dombasle, and has been tried in various forms with more or less success. M. Martin de Roclincourt, originally a captain of engineers, is the inventor of an ingenious and valuable machine for performing this operation. The beet is first cut into ribands, about one line in thickness. They are then plunged into boiling water, which is admitted into the machine at regular intervals, in regular doses. The ribands remain passing through the circuit of the machine during one hour, and steam is occasionally admitted to keep up the heat. In this time, the sugar contained in the ribanns is dissolved, and remains in solution in the water, while the ribands, now called pulp, are discharged on the side of the machine opposite to that where they entered it; the liquor containing the saccharine, flows off in another direction to the defecating pans.

This method is employed to a considerable extent in France, but by no means so generally as the rasp and the press. Its advantages are, that it gives rather more and a rather better product, and requires a great deal less labor. Its disadvantages are, that it takes a great deal more fuel, and does not leave the pulp in so good a state for feeding; there being too much water in it, and less saccharine, than in that which comes from the press.—It might be subjected to pressure, by which a little additional liquor would be obtained for the pans, and the pulp made vastly better for feeding. This, however, would require so much power of the press, and so much pains, that the French generally feed with the pulp just as it falls from the machine. We have little hesitation in giving the preference to this method, in a country where fuel is cheap and labor dear. The immense establishment commenced in London two years ago, but abandoned in consequence of the excise of 4 3-4 cents a pound, which the government hastened to impose, in order to guard the West India interest, was upon this system. On the other hand, the only other beet sugar manufactory, upon a scale of any importance, in Great Britain and Ireland, which is near Dublin, has adopted the rasp and press. The former establishment delivered for consumption a considerable quantity of refined sugar, which was so completely undistinguishable from refined cane sugar, that the government issued an extraordinary notice, that any fraud in the exportation of it with the benefit of drawback would, if detected, be punished with the utmost severity. Whether the establishment in Ireland still exists, we are not informed. It is, however, the opinion of persons skilled in the manufacturing and refining of sugar, and who have had small experimental beet sugar factories near London, that the business cannot be sustained under a duty of 4 1-2 cents. Others are confident, that, in consequence of the application of the fibre to paper making, by which the value of pulp is enhanced fourfold, the business will yet get a permanent footing in Great Britain. We do not think a fair experiment has yet been made in that country. The original prejudice against the pretensions of the new manufacture, forced forward by the odious machinery of the "continental system" and the power of the empire, to become a rival of their colonial industry, was of course virulent and obstinate. That it still abides in the mass of the British nation, and in minds which ought to be above it, is apparent from some limited and rather dogmatical views contained in No. CXXXI. of the 'Edinburgh Review.'

The production of the beet sugar culture in France, and in other nations on the continent, is very high, as we have seen; much higher than protection of any article of general and necessary use ought ever to be. It is at least a hundred per cent. on the cost. But we have also seen that the business did not succumb to the shock and disappointment occasioned by the fall from a protection of three hundred per cent. to no protection at all. After the general peace, sugar fell as low in France as it is in free parts of Europe at this time. An immense stock had accumulated in the sugar colonies, which had been successively captured, and were in the hands of the British, insomuch that they actually fed horses and other animals upon sugar. Yet, at that very moment, the working classes of Great Britain, under the onerous duty of 6 cents a pound, were drinking their coffee without sugar, as indeed they continue to do, to a great extent, to this day. This is to give a monopoly of the market to the West India planters. Here is folly and extravagance of taxation and protection, which quite eclipse the French beet sugar policy. The Edinburgh Reviewer, states, that "the great *impetus* given to it was in 1806." Now, in truth, the beet sugar manufacture *did not exist in France* at that time, nor until four years after, and not then to an extent worth naming. No "impetus" was given to it until the experiments of 1811, and the decree of the emperor, awarding premiums and establishing schools and model factories in 1812. Again he asserts, that "in two or three years more, France will be fleeced of £2,600,000 per annum, for the benefit of the land owners of *Alsace*."—Such allusions, however slight in themselves, tend to gain the confidence of the reader in the minuteness and accuracy of a writer's knowledge. But Alsace is not a seat of this manufacture; comprising two departments, the Upper and Lower Rhine, it has but five sugar manufactories, while the Department du Nord has two hundred and twenty-six, and the Pas-de-Calais, one hundred and thirty-eight. These errors show that the writer had not examined the history and present state of the beet sugar business in France, and was not therefore fully competent to pronounce an opinion upon it. His essential error lies in not taking into view the fact, with which he was probably unacquainted, that it has already encountered and survived that test of its utility, which he himself proposes, and before which he says it "would quickly disappear," viz. a free competition with colonial and foreign sugar, and an extreme depression of price.

The condemnation of beet sugar, in the eye of the Scottish economist, is, that it has received protection. Tried by the same rule, what must be the fate of West India sugar, or of any great branch of British industry? Or of the Louisiana cane planters, or of the American cotton and woollen manufacturers, coal miners, salt makers, hat makers, tailors, and shoe makers? The article is, in fact, a dash at *tariffs*. That battle we at present decline, referring the assailant to an abler antagonist in the same journal, about eight years back.

It does not appear that our contemporary had examined any of the French works upon his subject, except a couple of pamphlets by a merchant of Havre, who was probably interested in the colonial sugar trade, which, when beet sugar arose, was enjoying an absolute monopoly of the kingdom. The beet sugar has reduced the price of sugar in France, 25 per cent., and has, of course, much increased the consumption of the article. The first of these facts is not noticed, and the second is denied. We have often heard the French manufacturers regret, that competition has reduced the price of sugar, since their establishments commenced, from 15 to 10 *sous* the pound; and it appears, by the report in the Chamber of Deputies, prefixed to his article, that the sales at Paris alone, from October 1st, 1835, to Sept. 30th, 1836, increased 17,000,000 lbs. But the French Chambers, in 1837, laid a duty on indigenous sugar, which will amount, expenses of collection included, to 1.7 cents a pound. Of course, this leaves the protection in France at 2.55 cents; no more than that which the cane sugar planters of the United States enjoy, and not so much, by 6 cents a pound, as the British discriminating duty in favor of her sugar colonies!

Will the beet sugar manufacturers of France be able to sustain themselves under this change of policy?—This is a question which experience must decide.—Undoubtedly the Legislature firmly believed that they would, or they would not have imposed the duty; for the French no more think of sacrificing this interest at home to the colonies, or to any other object, than they think of removing Paris to the Island of Martinique. Many of the manufacturers will succumb, because it is a law of political economy, that if a business is better than ordinary, it will cause a proportional rush of competitors to it, a part of whom will adventure without adequate skill and capital, trusting to the goodness of the business to make up for these deficiencies.

The culture and manufacture of beet sugar in France, according to the result of ten cases, which we have examined, has yielded of late years an average profit of 49 1-2 per cent. on capital. In some of these cases the profit was as low as 9, and in others as high as 90 per cent. Now, as the duty of 1.7 cents amounts to a reduction of 22 per cent, on the former rate of profit, it follows, of course, that all those establishments, which, on the scale of profit are below 22 per cent., must go down, unless sustained at an annual loss. Even many of those which would range on that scale above 20 per cent., but which have proceeded principally or wholly (which is not often the case in France) on borrowed capital, trusting to larger profits for the means of extinguishing the original debt, will doubtless fail. The probable number of failures in consequence of the law, was estimated at two hundred, out of a total of five hundred and fifty establishments. Others will probably remove from France, and set up in Belgium, Germany, Russia, or Austria, where protection is greater, and what is more material, stabler; for those countries have no colonial interest to consult. Opinion is, however, that the law will undergo some modification before it shall have produced this last consequence. These failures or removals, if they shall take place, will not show what protection, or whether any protection is really needed. They will be

the natural result of subtracting from a business a protection which it had been accustomed to have, and on which it relied.

But let us consider a moment what are the conditions under which a manufactory is to go on in France, if the tax shall stand. According to the results of the working of twenty-nine French factories, situated in every variety of locality, the average cost of the production of beet sugar in France is 6.6 cents per pound. The lowest rate, which we find, is 5,9 cents; the highest 8.6 cents per pound. But, in these results, the pulp and molasses are the only accessory products taken into the accounts; and these, only at low venal values, which are not more than from one-third to one-half of what they are really worth, when used with judgement and economy on the spot, without the cost and uncertainty of procuring them from a distance. But there are other accessory benefits, very important in rural economy, which are left out of sight in these accounts. These accessory benefits are:

1. The leaves, which constitute an excellent green feed, which may be used as such from August to November, two or three months; or they may be dried and laid in for winter. They are worth five dollars an acre.

2. The manure, which is found to be increased from three to four-fold on farms where sugar is manufactured. This manure, coming from the stables, or from the scums and deposites of the defecating pans, or from the bone-black, which is much used, is of the very best quality, and a portion of it acts upon vegetation with a promptness and energy truly extraordinary.

3. The trimming of the beets, preparatory to their being submitted to the washing machine. These consist of the decayed parts of the beets, and the forked and fibrous roots, which are cut from them in the process of relieving them from adhesive earths, with which, in most kinds of soil, they will be more or less loaded. Chaptal considers the daily trimmings of 12,000 lbs. of beets, sufficient to feed from twenty-five to thirty swine, during the manufacturing season. The quantity of beets worked up in the French factories, is rarely less than 20,000 lbs. per day; it is, in some, more than 100,000 lbs. Many manufacturers merely transport the trimmings to the fields, there to decay, and serve, to some extent, as manure.

4. The ashes coming from the furnaces. These are valuable, whether sold to the soap boiler, scattered upon the fields, or cast into the farm yard.

It will be readily perceived that these items are important, and some of them all important to farmers.

M. Dombasle estimates the pulp and molasses, if the first be used by the proprietor, for feeding and fattening cattle, and the second for distillation, as worth 35 per cent. of the whole expenses of a sugar establishment; but he leaves out the four items which we have enumerated above. We doubt not that those are worth to the cultivator as much more; making 70 per cent. of the costs of producing the sugar defrayed by the accessory and agricultural benefits. Let us listen for a moment to M. Crespel de Lisse, who thus testifies, February, 1827, before a committee of the Chamber of Deputies:

"The culture of the beet has increased remarkably the value of real estate. He lately purchased, at the rate of $15 an acre, some lands which were let at $3.80 an acre. Since they have been cultivated with the beet in the rotation of crops, the number of sheep hereon has been doubled, and the horn cattle trebled. In a few years the value of the farm will have increased 50 per cent.

"The rents of leasehold property have been doubled where the land was of a medium quality; and, in case of lands specially adapted to the beet, the rents have been quadrupled."

M. Spineux, another cultivator and manufacturer, belonging to the department of the Somme, tells the same committee, that, "when he took possession of his farm of 350 acres, he believed that it gave a profit of $853. On annexing a sugar establishment, he obtained a profit of $1,425."

M. Chinchain, of the department of the Sarthe, testified as follows:

"He cultivated about 1100 acres, 550 in beets. He procured one hundred bullocks from Poitou, which he fed with pulp and a little straw. His neighbors, struck with the advantages of his cultivation, came and offered to weed his beets for the weeds; and to dig, clean, and cart them, for the tops. This practice has had the effect of diffusing so much plenty around him, that during the beet harvest, butter falls in price at Angiers, four miles from his factory."

It is the general testimony in the neighborhood of Dunkerque, Valenciennes, and Arras, that real estate has risen 50 per cent. in consequence of the introduction of the beet sugar culture, and wages in nearly the same proportion.

Let not this statement be passed heedlessly by. An advance of 50 per cent. on the value of farms will soon change the face of a country. Land worth $20, becomes worth $30; and land worth $50, becomes worth $75. It is the same as if money should spontaneously increase in quantity, so as to give the lender, at the end of a few years, a principal of $150 for $100, after having yielded him his annual interest.

It has been said, that the opening of the Erie canal had the same effect upon the real estate in the central and western counties of New York. The beet sugar culture is better, because it is at the option of every cultivator of enterprise and industry, whether he will have it or not. It is what the canal would be, if every farmer could, by his individual exertions, bring it by his own door.

Another important view of the beet sugar culture is, the benefit which it confers upon the soil, by clearing, dividing, and fertilizing it. It fallows without exhausting, and is one of the best preparations for wheat and other grain crops. In a country like France, where seventeen millions of acres, one-fourth of the arable land, lie fallow all the time, the use of this culture, as a substitute for fallows, is a matter of no slight importance.

To consider, then, the beet sugar business merely in its manufacturing aspect, leaving out all these rich results, or to bring as an argument against it some derangement of commerce and revenue, which will of course result from any considerable change, be it beneficial or otherwise, is to entertain a contracted and deceptive view of the subject. We readily concede that, considered as a manufacturing business, without giving any additional agricultural profits, or connecting itself with any agricultural improvement, it is not yet proved that it would be profitable, but that it is highly so, when the manufactory is made subsidiary to agriculture, and fills up the inactive season of the northern winter, we confidently believe, and do not expect any intelligent man to deny. Suppose, however, it should be found, that the pulp is worth, for paper making, five times its value as food for animals; or that the processes and machinery of the manufacture should be so perfected, that the ten or ten and a half per cent. of saccharine matter, known to exist in the beet, should be extracted and crystallized. In either of these cases, beet sugar making would be very profitable, as a purely manufacturing concern.—Now, we feel authorized to say, that neither of these improvements is any longer hypothetical In England, Mr. Kyan, the inventor of the method of preserving timber from the ravages of the dry rot, has obtained a patent for making paper of beet roots, after the juice is expressed. We have seen several specimens of a firm and durable wrapping paper, made of this new material. We are informed that good printing paper has been made principally from the same substance; and it is confidently expected, that fine writing paper will be produced. The extensive and increasing demand for paper, and the immense commerce now carried on in rags, are sufficient proof of the importance of this application of the beet root pulp.

It is well known to those who have attended to the progress of this business in France, that the profits of the principal manufacturers have been much absorbed by a desire, probably too earnest, to keep up with the improvements of machinery. Much has likewise been lost in unproductive experiments. It would be ungrateful and ungracious to find fault with our French friends on this account; since they have carried the business through the natural and necessary period of infancy, at their exclusive cost, for the common benefit of mankind. They have all along been conscious that they were obtaining from the beet but little more than half its saccharine matter. This conviction has naturallly and very properly caused a restlessness, and a striving after something more perfect. It is certain that those who have resisted all innovation, and adhered to the original methods and machinery, have been the most successful; but if all had been equally cautious, little improvement would have been made, and the nation would have been at a remoter period, and in a less degree, benefitted.—Nevertheless, we fully believe, that the cotton manufactory has never been established in any country with so few failures, and so little loss and fluctuation, as the beet sugar business in France, and other countries of the continent.

But we now safely assert, that the great desideratum which the French manfacturers of beet sugar have always felt, and have been striving to supply, is at length attained; that a method has been discovered by which the beet is deprived of all its saccharine, be the same more or less, and that this matter is obtained and operated upon in such a manner as to be nearly all in a crystallizable state. Hitherto about 50 per cent. of the saccharine has resulted in molasses. This residuum is of comparatively small value; and every thing which arrests the formation of it, adds by so much to the deposite of sugar, and to the profits of the proprietors.

Mr. Schuzenbach, a chemist of Carlsruhe, in the Grand Duchy of Baden, is the author of the improvement. Having obtained his result in the laboratory, he communicated it to distinguished capitalists in Baden, who thereupon formed a company; not with the view, in the first instance, of erecting a manufactory upon the new system, but merely of proving its pretensions. To this end they advanced a considerable sum for setting up experimental works so large, that the thing could be tried on a manufacturing scale. Having done this at Ettingen, near Carlruhe, they appointed a scientific and practical commission to follow closely the experiments which Mr. Schuzenbach should make. Commissioners from the governments of Wurtemburg and Bavaria likewise attended. The experiments were carried on during five or six weeks, in which time several thousand pounds of sugar, of superior grain and purity, were produced.

The Baden company were so well satisfied with the report of the commission, that they immediately determined to erect an immense establishment, at an expense of more than $200,000 for fixtures only. A like sum was devoted to the current expenses of the work. Factories were simultaneously erected at or near Munich, Stuttguard, and Berlin. The arrangements were made with remarkable intelligence and caution; and we cannot doubt, that the new method will prove of immense importance to the prosperity, comfort, and improvement of the northern nations and colonies of the old world and the new.

From the Farmer's Cabinet.

Virginia Thorn Hedge.

The enclosed communication from D. P. Schneller, of Bethlehem, on a subject of much importance to the farming interest, may be considered sufficiently interesting for general perusal. The hedge referred to, is so far superior to the ordinary attempts at live-fencing, that the intelligent cultivator, at my request, drew up a particular description of his method of cultivation.

It is now, after having been planted about seven years, of an average and nearly uniform height of six feet, and is an effectual protection to a flourishing vineyard, of which there are several in the vicinity of Bethlehem.

It is mentioned in remark No. 4, by D. P. Schneller, that he filled a small trench with lime on each side of the hedge, to protect it from the mice. It may be considered certain, that this lime has operated an important effect not only in protecting the hedge from various descriptions of depredators—but, being taken up into the circulation, has added materially to the health and vigor of the plants. With great regard, I remain,

Your friend, MORRIS LONGSTRETH.

(*Valley Green,*) *Montgomery County, Pa.*

Bethlehem, August 6th, 1839.

MORRIS LONGSTRETH, ESQ.

SIR,—In answer to your request for information as to the method of planting and training my live hedge, I have to state, that the first preparation was a trench made in the fall of 1831—one foot deep, and one foot wide, as far as it was intended to plant the hedge; the upper and lower earth was thrown together on one side. After the trench was finished, the earth was thrown in again, mixing it as well as possible, and adding some well rotted manure; thus it remained till March, 1832. In December, 1831, fifteen hundred quicks, or plants, of the "*Crasægus populifolia*, maple leaved Washington, or Virginia thorn," were procured from the Messrs. Landreth, of Philadelphia, for which they charged us six dollars and twenty-five cents, though they now advertise them at five dollars per thousand, in their catalogue of plants. These were kept in a cellar till March, 1832, when they were planted. Before planting they were prepared as follows: Every plant was trimmed of every side root, and the main roots were cut off in the length of six inches, and the top of two inches. They were then planted at the distance of eight inches one from the other in the rows with a dibble, that is, with a piece of pointed wood, as cabbage plants are usually planted. They were plaited the first time in the spring of 1834, which might have been done a year sooner, if the field mice had not done so much damage by gnawing them off in the ground, making gaps and forcing me to plant young plants for two successive years, before I was able to plait them the first time. The first plaiting is to be done as close to the ground as possible. They will throw out a number of shoots close together along the whole line; these are to be headed down the next spring in the following manner; the strongest shoots are to be left about fifteen inches long; the next about one-third shorter, and the weakest the shortest; the reason of heading down the shoots of different heights is, that the hedge may be close and thick between the different plaitings. I have taken notice that they seldom throw out shoots at the sides of the stems, but mostly at the top; therefore if all the shoots were headed down of an equal height, the hedge would not be so close between the different plaitings, but by heading them down at different heights, it will be full and

close from the bottom to the top. Before the second and every other plaiting, the strong side shoots are cut off to three or four inches, and if there should be too many upright strong shoots for plaiting, some of them are cut out, which makes the plaiting easier. After the second and every other plaiting the sides of the hedge are trimmed with a pair of garden shears, but only in the spring; after the hedge is finished, it is to be sheared twice a year, that is, in spring and summer.

REMARKS.

1. I call this method the American method, as I have neither heard nor read of its being practised elsewhere.

2. What I call plaiting, is twisting the shoots together in a continuous line. Where they do not keep well together, they should be tied with willows. The longer the shoots are, the easier they are plaited.

3. The person that plaits the hedge ought to have a pair of good thick leather gloves or mittens, and must also take care not to bend the shoots too short, as they they would be apt to break.

4. To protect the plants against the mice, different methods were tried—first, I made a trench on each side of the hedge about four inches deep, and filled it with unslacked lime—then pieces of woolen rags were dipped in turpentine and put in their holes—and thirdly, I made small balls of dough, made up of flour mixed with arsenic and sugar, and rolled in lard, which were strewed about the hedge before winter. Which of the three methods preserved the hedge most, I know not; at all events after some years it grew too strong for the mice.

5. If, notwithstanding all care, holes or gaps should happen between the plaitings, these may be closed up with side shoots, in which case, the strongest should be left in such places, and not cut off before plaiting.

6. The hedge does not grow well under the shade of large trees.

7. I am inclined to think that a hedge planted and trained in this way, may be finished in six or eight years.

I remain. most respectfully,
Your obedient servant,
D. P. SCHNELLER.

From the Boston Courier.

Plowing and Plows.

Plowing is considered by all farmers as the most important agricultural operation, either as it regards the immediate crop, or the future and permanent improvement of the soil. The farmer, who so manages his field, as to produce, in the main, the greatest reward for the labor and expense bestowed, will undoubtedly be considered as acting with a sounder discretion, than he whose sole object is a present crop, without regarding the permanent improvement of his fields. To deepen the soil, by bringing to the surface at each successive ploughing, a portion of the poorer sub-soil, and thereby exposing it to the enriching influence of the atmosphere, and to cover up and preserve from washing rains, and wasting winds, the light vegetable matter upon the surface, as well as to facilitate the subsequent operations of the husbandman, are the only important uses of the plow

Our old fields are rapidly approaching to a state of utter sterility. At each successive rotation of crops the vegetable mould is becoming thinner, and the product less; and the plow, in the hands of most farmers, so far from depening the soil, and increasing its powers of producing, is really exhausting it of all its natural fertility; and will soon render it, as has already been done in some parts of our country by the same means, an unproductive waste, unfit for cultivation. The rich treasure, which our forefathers found upon the surface, which had been accumulating for centuries, has been squandered with a prodigal hand. The apparently inexhaustible deposite of vegetable food, which covered the land, has, by an improvident use of the plow, been given to the four winds of Heaven, or washed away into the ocean. They have plowed, cross plowed, and harrowed, till their descendants have little else left than a mere *caput mortuum*.

I have known rich swells of land in Maine, which, thirty years ago, were covered with thick forests, and what would have seemed an exhaustless store of food for vegetation, by means of the plow robbed of every particle of vegetable sustenance, and now absolutely abandoned by the occupant as worthless.

Strange as the assertion may seem, it is nevertheless true, that farmers generally plow too much. The poorer sub-soil, which is turned up by the first plowing, instead of being kept upon the surface, till it has become enriched by culture and exposure to the air, is by cross plowing immediately turned back again into its cold and lifeless bed; and the light vegetable mould, instead of being kept beneath, for the benefit of the crop, is, by the same process of cross plowing, brought again to the surface, and blown away by winds, or washed away by rains.

The manner of plowing, and kind of plow, which is used by most farmers, have also a tendency to diminish the natural or acquired fertility of the soil. With plows but little differing in construction from common wedges, the ground is not turned over, but crowded into ridges, or the furrows lapped upon each other in such a manner as to expose much of its best properties to waste. The writer has ascertained from actual experiment, that an acre of land yielding not more than a ton of hay to the acre, at the usual season of plowing greensward, say the tenth of May, contains more than twelve tons of vegetable matter, consisting of the roots and tops of grass, and other vegetable remains upon the surface. Such a method of plowing then as will be best calculated to secure for the benefit of the crop, this mass of enriching substance, the farmer should not hesitate to adopt. By completely inverting the sward, and laying it as flat and smooth as the nature of the ground will admit, and then cultivating the crops without disturbing the sod, with the application of a light dressing of compost, land may not only be kept in heart, but wonderfully improved, With one plowing in this way, and spreading on one top dressing of compost manure, of about twenty cart loads to the acre, and mixing it finely with the poor earth at the surface, I have raised two crops of grain or roots, and laid the land to grass. In the ordinary way of cultivating, four plowings, as many times harrowing, and two dressings of manure, are considered necessary. I have then saved three plowings, and as many harrowings, one dressing of manure and at the same time have deepened, and permanently improved the soil, and more than doubled my crops. 'Ten years ago, I was upon the point of abandoning some of my old fields in despair. They had been cultivated in the usual mode of plowing, cross plowing and cropping, alternately under the plow, and in grass, and had become so impoverished, that the products were insufficient to cover the expense of cultivation. The same piece of land, which gave me one ton of hay, will now, at the same distance of time, after laying to grass, give me three.

In the cultivation of land, which has been a year or more under the plow, nearly the same course is to be pursued, especially when it is intended to sow wheat or rye, plow your land so as to turn under the rich mould, bring to the surface a portion of the fresh earth that has never before been disturbed by the plow, and mix this well, (if the preceding crops have not been well manured) with a light dressing of well-rotted compost, and from twenty to fifty bushels of slacked lime to the acre, and I am confident you will never require a Legislative bounty, as an inducement to cultivate wheat.

Good plowing cannot be effected without plows suitably adapted to the purpose. In this all important agricultural implement, I venture the assertion, without fear of contradiction, that the Americans have made greater, and more useful improvements in its adaption and fitness for the designed purpose, within the last twenty years, than have been made in Great Britain for a century. From a conviction of the indispensable necessity of good plowing to a successful tillage, near twenty years ago I persuaded the person, who occupied the farm I now own, to send to England for an improved Scotch plow, (I think Small's) which was highly recommended in the agricultural publications of that time. This was before the introduction of the cast iron plow into this part of the country. The plow came, and I must confess I was greatly astonished at the first sight of it, and as much disappointed when I witnessed its operations. A huge, misshapen combination of wood and iron, it was the laughing-stock of my neighbors, who at once denounced me as a "book farmer." The plow was laid aside, and has been kept for show, and in construction and workmanship, when compared with American plows, furnishes a striking illustration of the superior skill and ingenuity of our own mechanics, over those of Europe. I can now do twice as much work, and do it infinitely better, with Prouty & Mears' improved plow, with one horse, and a single hand, than a yoke of oxen and a horse, and one additional hand to drive, could do with the famous Scotch plow.

Public attention was first awakened to the subject of improvements upon the old-fashioned, wedge-like plow, by the writings of Mr. Jefferson, who, in 1798, published his new theory of the construction of the mould board, formed upon mathamatical and philosophical principles. It was in consequence of a suggestion from him, that Robert Smith, of Pennsylvania, in 1803, substituted the cast iron for the wooden mould board, for which he obtained a patent. This was the commencement of a series of improvements which have resulted in the substitution of cast iron for all parts of the plow, except the beam and handles, and such has been the progress in reducing this implement to a fitness for the purposes designed, that the American cast iron plough, as now constructed, may in truth be considered, as it has been denominated, the most important instrument known to man. About fifteen years since the cast iron share came into general use in this part of the country, Wood's, Tyce's, Hitchcock's, Howard's, and last of all Prouty & Mears', have each had their share of public favor. I have particularly attended to the operation of all these, and noticed the defects and excellencies of each. About twelve years ago, Hitchcock's plough, then in general use, and highly approved by the farmers of New York, was introduced into this State by Mr. Prouty, who was well acquainted with the practical use, as well as the construction, of the plow. His science in agriculture, aided by his mechanical skill, from time to time, suggested to him various and important alterations and improvements in this plow, and about two years since, Prouty & Mears obtained from the government, a patent for their "improved cast iron plow."

The prevailing difficulty with all plows, with the exception of the last named, is that the force necessary in the draught, is not applied directly to the centre of resistance. Writers on this subject, as well as practical farmers, have erred in their notion, that the beam should be placed directly over the land side of the plow, and that the cut of the coulter, or the position of the standard, should be square, or at a right angle with the cut of the share, thinking that if the share and coulter make an acute angle on the land side, the plow will incline to fall to the right. This would be the tendency, unless the other parts of the plow are so constructed as to resist and overcome this inclination. By so placing the coulter as to form an acute angle with the plane of the share, on the land side, the beam is brought more directly over the centre of the plow, as is the case with Proutty & Mears' improved plow, and thereby the power necessary to move it, is applied more directly to the centre of resistance, and the force required to move it, and overcome this resistance, is of course less than when applied on one side. I cannot better make myself understood, than by supposing the land, or left hand side of a harrow, to be kept on a straight line with the line of draught. It will readily be perceived that the force necessary to draw it, when so placed, will be greater than if drawn in the usual way, by applying the draught to the centre. This is decidedly one of the most valuable improvements in the construction of the plow, that has been made in modern times, and for which the public are indebted to the ingenuity and skill of Messrs. Prouty & Mears. A greater ease of draught is not the only advantage resulting from this improvement. Another and perhaps greater benefit is its perfect adaption to the end designed, by leaving the ground in the best possible position. The acute angle, which is made in the land side of the furrow, slice, by the peculiar construction of this plow, enables the plowman to lay the furrows together, like feather-edged boards. This, in greensward, is very desirable, as the grass is thereby prevented from springing up between the furrow slices much more effectually, than when the furrows are cut at right angles. The grass is completely shut in, and will not ripe to injure the crop, or increase the labor of cultivation. Not only in greensward, but in old ground, the superior manner in which the work is done by this plow is very perceptible. There is no tendency to crowd the ground into ridges; the soil is taken up, as it were, and turned over, and left loose, and in the best state to derive vegetable aliment from the air, and to enable the roots of plants to penetrate, and strike down in search of food.

Another advantage attending the peculiar construction of Messrs. Pourty & Mears' plow, is its durability. When the resistance is all upon one side of the beam, there must be a constant tendency of the plow to the left, or land side; the friction is thereby increased in this part, and the wear, of course, is greater; but when the beam is placed more over the centre of the plow, and the resistance which it has to encounter, is upon both sides of the beam, its movement is more regular, and the friction equal in all parts. These are some of the peculiar properties of this plow, which give it a decided preference to any other now in use. On conferring with some of my neighbors, relative to the work of Prouty & Mears' plow, it is believed, that in plowing a field of ten acres, the amount of labor saved, added to the amount gained in consequence of the improved tilth, when compared with the work of any other plow, is fully equal to the price paid for it. E. P.

Lexington, Mass.

Maltha, or Greek mastich.—This is a more simple composition than the cement of the Romans, when used for stucco on the outside of fabrics, consisting only of lime and sand, but rendered into a paste with milk or *size*.

Indian Cement.—This is only a variation of the mastich, and is composed of equal quantities of flint, lime, and pit sand, slaked with water, well beaten, and suffered to remain for three or four days, then moistened and mixed up with oil, mucilage, whites of eggs, and butter milk, and applied as rapidly as possible, after being mixed.—*Maine Farmer.*

A Rare Chance.

FOR SALE.—A Partner wishing to withdraw from an old established Agricultural Implement and Seed Ware-House, having a good run of country custom, would be willing to dispose of his interest on liberal terms, as he is about engaging in other pursuits. To a person wishing to engage in a respectable and profitable business, having some ready capital, it is an opportunity rarely to be met with. A liberal credit will be given on most of the purchase money, if properly secured. Any communications addressed "La Fayette," New-York City, will be treated strictly confidential. November 13, 1839-w4t

Farms for Sale.

THE subscriber offers for sale, a Farm containing 480 acres, situated in the town of Collins, Erie County, 2½ miles east of the village of Lodi, and 34 miles south of the city of Buffalo. The surface is undulating; soil principally a deep sandy loam, well adapted to grain or grass, admirably well watered by durable springs of pure water. 170 acres under good improvement, with commodious buildings. The timber land is covered with a heavy growth of Oak, Chestnut, Hemlock, White Wood, Cucumber, White Ash, Beach, Maple, and a sprinkling of Pine.

Twenty-five per cent of the purchase money will be required down, a liberal credit given for the residue.

Also—a farm containing 450 acres situated in the town of New Albion in the County of Cattaraugus, 2½ miles from the village of Waverly, and 11 miles south of Lodi. About 100 acres under improvement, and well watered. The timber is principally Beach, Maple, Elm, Bass Wood, White Ash and Butternut. This farm is peculiarly adapted to grazing. JOSEPH PLUMB.

Lodi, Erie County, September 20, 1839. oct5w8tm2t

Berkshire Pigs,

DIRECT from the stock of C. N. Bement, Albany, for sale by THOMAS WRIGHT,

October 19 1839.-w3w Near Macedonville, Wayne Co. N Y.

THOROUGH BRED DURHAM BULL FOR SALE.

MAYDUKE.

COLOR, a fine roan. Beautiful symmetry in all his points. He was calved upon the 13th of February, 1837. Was got by Sir Walter out of Cherry.

Sir Walter was bred by Mr. Chrisp of Doddington, Northumberland, and was imported by Mr. Fergusson into Canada in 1834.—The sire of Sir Walter was Batchelor, Herd Book 1616. Dam, Sprightly by Barmpton, (1677); Grand dam by Waverly, (2319); Great grand dam by a son of Washington, (674.)

Cherry was also bred by Mr Chrisp and imported by Mr. Fergusson. Her color roan. She was got by Dunstan Castle; grand dam by a son of St. Albans, [2584]; great grand dam by Lawnsleeves, [365.] Cherry was sold into Kentucky, last year, for 300 dollars. For further particulars, apply to the Hon. ADAM FERGUSSON, Nelson Post Office, Upper Canada.

Nelson, October 8, 1839. oct 19-w1m

Berkshire Hogs.

THE subscriber has for sale a few full blood, and half blood, Berkshire Pigs. WM. PITKIN.

October 26, 1839.-2tw

For Sale.

6,000 Morus Multicaulis Trees, by the subscriber, at his residence in the town of Gates. They are of the very best quality, and will be sold on liberal terms, by applying by letter, (post paid) or at his residence. J C BRAINERD,

Gates, October 2, 1839. w6t*

Morus Multicaulis Tree Agency.

THE subscriber now offers for sale some choice lots of the above Trees, warranted of the genuine kind. Also, some Brussa and Canton, now growing in different counties of this state, to be delivered in the fall, or on the ground as they now stand, viz:

In Cuyahoga county,	1 lot of		5,000
Do	do	1	6,000
Do	do	1	4,000
Do	do	1	1,000
Do	do	1	2,500
Do	do	1	800
In Portage county		1	20,000
Do	do	1	8,000
Do	do	1	6,000
In Stark county		1	4,000
Do	do	1	6,000

In Cuyahoga and Portage counties:

1 lot of Brussa	3,000	1 lot of Canton	3,000
1	2,000	1	6,000

Which will be sold in any quantity to suit purchasers, at fair prices, with others, the particulars of which are not yet received, by

JAMES HOUGHTON, Agent,
Cleveland City Seed Store.

☞ Persons who are desirous of disposing of their trees through my agency, are requested to forward particulars as early as possible, and the business will be transacted on liberal terms, and agencies are solicited. Cleveland, Ohio, Aug. 17-w3m-m1t

Morus Multicaulis and Morettii.

ELLWANGER & ROGERS are prepared to make contracts to any amount, for genuine Morus Multicaulis and Morus Morettii; the Morrettii are hardy, and will stand the winter in this country.

Any persons living at a distance and wishing to purchase a large quantity to sell again, shall be supplied at the very lowest wholesale prices so as to admit of their selling at the same prices as other persons, and make a very handsome profit. Also Silk Worms Eggs.

E. & R. will supply orders to any extent for every kind of Fruit & Ornamental Trees, Shrubs, Vines, Hardy Plants, Bulbous Roots, Greenhouse or Parlor Plants, &c. &c.

September and October is the time for planting Bulbous Roots in the open ground, such as Tulips &c. of which they have a very fine collection for sale. Cash paid for Grass Seed, Plum, Peach Stones, and Apple Pips. Greenhouse corner of Buffalo and Sophia-streets Rochester, N. Y. sept14-wtf

Morus Multicaulis.

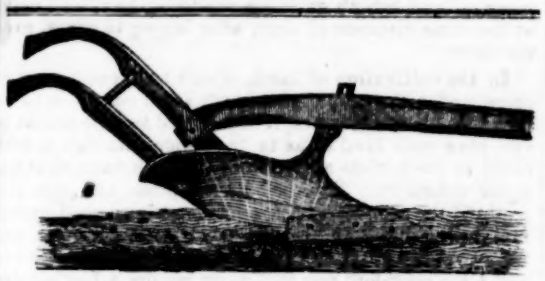
THE subscriber is prepared to furnish Morus Multicaulis (Mulberry) Trees, in large or small quantities, delivered any time this fall after the first of October. The trees will be raised from Roots, Layers and Cuttings, of thrifty growth and matured wood, and will be sold at prices in proportion to their size. October and November are the most favorable months to transport them to the Western States, or into Canada, or in any direction where they must be sent a distance by water communication. All orders from a distance, by mail, should be sent early, (post paid,) addressed to

E. H. MIX,
July 27, 1839.-w6m Avon, N. Y.

To the Farmers of Monroe.

The Farmers of Monroe, who wish to improve their breed of Hogs, are respectfully requested to call at the Clinton House Stables, in the city of Rochester, where they will find a *pure blooded Berkshire Boar*, recently obtained from one of the best breeders in Albany.—Such an opportunity, it is believed, has never before been placed within the reach of our farmers, and it is to be hopod that they will appreciate and avail themselves of the privilege thus offered, as they can by this means, at a trifling expense, effect a highly valuable and permanent improvement in their breeds of swine. A view of *Peter Berkshire*, which will cost nothing, will, however, afford the most convincing proof of the benefits to be derived from the proposed cross. He will remain at the above place for some weeks for the benefit of the public, after which he will be removed to the farm of his public spirited owner in Brighton.

Rochester, November 1, 1839.-w5t-m2t



Whiting's Wisconsin Prairie Plow.

THE INVENTOR of this Plow, by a few years experience on the Western Prairies, in the use of the common Plow, has discovered the cause why earth so generally adheres to the mold-board. It is this:—The mold-board is so short and crooked, both ways, that a hollow is formed that catches the dirt as the sward passes. Where there is a plain, flat surface, more nearly resembling a WEDGE, no earth remains. In this Plow, the wedge principle is adopted, and from the point to the heel of the board, a perfectly straight line is formed; so that a straight edge, laid on lengthwise, or crosswise, as in the cut represented, will touch the mold-board the whole distance, with a gradual wind, to turn the sward; thus producing a uniform action on the whole surface of the board, without breaking the sward. Then why not better in any soil?

State or county rights, for making and vending this Plow, may be had on application to the subscriber, at Racine, Wisconsin Ter.

E G WHITING.

N B Patterns for the various sizes furnished by the Patentee.

The following certificate from the Society of Shakers, at Watervliet, accompanied by an order for four plows, will show the estimation in which this plow is held by that intelligent community.

Watervliet, Shaker-Village, Sept. 13, 1839

We hereby certify that we have tried the Wisconsin Prairie Plow, as exhibited to us for trial, by Ebenezer G. Whiting, and we hesitate not in giving it the preference to any thing we have ever seen of the plow kind, both for ease and utility.

CHANCEY COPLEY, D A BUCKINGHAM,
BENJAMIN TRAIN, WM THRASHER.

The following is the report of the Judges, appointed by the Mechanics' Literary Association, at the Fair of the Mechanics' of Western New York, held at Rochester, Oct. 1839, awarding a Diploma to the Wisconsin Prairie Plow.

A Green Sward Plow,—from E G Whiting. This article is constructed upon strict philosophical and mechanical principles, combining many advantages for tough, strong sward land, and those that are new and rooty, as well as those of ordinary kind, and cannot fail to be a favorite article.

C DEWEY,
L B LANGWOTHY, } *Judges.*
S W D MOORE,

Morus Multicaulis.

S. E. GIBBS & SON, who have been Mulberry and Silk Growers, for several years at Troy, N Y. wishing to increase their operations, have located themselves on Long Island, 5 miles south of the city of New York, and about 2 miles north of Fort Hamilton, on the west end of the Island, where the Steam Boats Monmouth, Wave, and Osirius, pass and repass daily. They offer to sell a part of their Morus Multicaulis, Alpine and Expansa Mulberry Trees, from 20 to 25,000 deliverable in November next. The trees are all growing in fine order, some of them are over 6 feet high, and very liberally branched. Their genuineness will not be questioned by any one who will call and see them which will be attended with very little trouble or expense being so near the city of New York.

They will be sold in lots to suit purchasers. Likewise a few thousand Silk Worm's Eggs, consisting of Sulphur, Peanut, Long Grays and 2 crop White; and at the same place a number of bushels of the celebrated Rohan Potatoe can be had.

Any communication for us must be addressed to Brooklyn P. O. Long Island.

Reference to Burdick & Wright, 235, Front st. New York.

Brooklyn, Sept. 5, 1839. sept14-w8tm2t

For Sale,

A FEW thousand of the Morus Multicaulis trees, by the subscriber, at his farm, near Fairport, in Perinton, will be offered for sale, in lots to suits purchasers, on liberal terms. Persons who can make it convenient to call and examine them on the premises are requested to do so, before purchasing elsewhere. All letters addressed to the subscriber shall receive prompt attention. ZERAH BURR.

Perinton, Sept. 5, 1839. sept14tf

Monroe Horticultural Garden and Nursery,

GREECE, MONROE COUNTY, N. Y.

THIS establishment now comprises over 20 acres, covered compactly with trees and plants in different stages of their growth.

The subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Grape Vines, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, Splendid Paonies, Double Dahlias, &c. &c.

Also, a large collection of Green House Plants, of choice and select varieties, in good condition.

Orders respectfully solicited. Trees and Plants, when ordered, are carefully selected and faithfully packed, and if desired, delivered on the Canal, one mile from the Nursery, or at Rochester.

Orders for Mr. Rowe's Nursery received by the publisher of this paper.

Catalogues will be sent to every applicant, gratis, or may be had by calling at the office of the Genesee Farmer

April 1, 1838. ASA ROWE.

Agricultural Warehouse and Seed Store.

79 *Barclay-street, New-York.*

AT this old established stand, the subscribers take pleasure in announcing to the public, that they have made extensive arrangements to accommodate farmers in all articles connected with husbandry, viz:—Agricultural implements, a full and fresh supply of Field and Garden Seeds, Fruit Trees, Durham Cattle, Chinese and Berkshire pigs, 10,000 Morus multicaulis Mulberry trees; Publications on Rural subjects, &c.

Published here the Rural Library, S. Fleet, editor, a few copies of 1st vol. for sale. The object of this work is to constitute a Library at the least possible expense. 2d vol., commencing with Professor Low's Elements of Practical Agriculture, with nearly 250 fine engravings; subscription $3. Subscriptions received for the Genesee Farmer, Cultivator, &c. &c. J. W. WEAVER & CO.

April 20-wm1y 76 Barclay st, New-York

Gilson's Patent Straw Cutter.

THIS Machine of which the annexed cut is a representation, has now been before the public about three years, and for its construction as a machine for cutting the various kinds of fodder its reputation stands unrivalled, and the Patentee and Manufacturers, challenge the world to produce a better article, when taking into consideration its peculiar advantages—These are—1st. It is so constructed that by turning a crank it feeds itself, and cuts a uniform length; 2d. By shifting small gear wheels the length of the cut is altered; the length's usually applied are three, viz: one inch, three-fourths, and half inch; but can be constructed so as to cut any required length; 3d. It is so constructed that the *cutting knives* can be taken off and ground or otherwise sharpened, and again replaced with ease and precision.

The increasing demand for this Machine has induced the Manufacturers to give its reputation a more extended circulation, in order that those wishing to purchase Straw Cutting Machines may know where the best article can be had at the reduced price of $12. This has induced the Makers to publish a few certificates.

We the subscribers have been in the habit of cutting straw &c. for fodder and have found it extremely difficult to procure a machine suited to the various tastes of different persons until we obtained one of Gilson's Patent, this machine is constructed in such a manner that by applying the fodder and simply turning a crank it cuts uniform lengths. The knives cut on the principle of shears, and by the change of small gear wheels is in a moment made to cut different lengths; it is compact and easily carried from place to place, and from its durability of construction and its adaptation of *general principle* to the wants of the farmer and others wishing to cut fodder, that we do most cheerfully recommend said machine to the notice and use of a generous and enlightened public.

John Dagget, Daniel Kenyon, Hiram Soverhill, A G Lamson Lauson Fisk, Arcadia, Wayne Co. N. Y.; Samuel S Perry, Stephen Brewster, Manchester, Ontario Co. N. Y.

This may certify that I have been acquainted with Gilson's Patent Straw Cutter, having used several for the combination Line on the Erie Canal, I hereby recommend said machine for cutting straw above any or all others that I have ever seen.

Newark Feb. 4, 1839. (Copy.) L. P. HUTCHINSON.

To those wishing to purchase Straw Cutting Machines.—It is now six or eight months since we purchased one of Gilson's Patent, and we do not hesitate to say that it has equalled our most sanguine expectation, we therefore recommend it to the public as the best machine for cutting fodder with which we are acquainted.

JOHN & G. LONGMUIR.

Gilson's Patent Straw Cutter is made and sold by Joseph Hall and Jonas B Gilson, (near the Aequeduct) Rochester, N. Y.; Gilbert Jessup, Arcaida, Wayne Co. N. Y.; Harris & Wilcox, Auburn, Cayuga Co. N. Y.; John McVicar, Hemlock Lake, Livingston Co. New York.

In addition to the above, for sale by M B Bateham Rochester [Seed Store] New York.; A L Smith, P. M. Weedsport, Cayuga Co. New York; Remson & Pelhamus, Lyons, Wayne Co. New York; Elbridge Williams, Palmyra, Wayne Co. New York; Stephen Brewster, Manchester, Ontario New York; John Pargo, I D Burgall, Geneva, Ontario Co. New York; A H Fairchild, P. M. North Bloomfield, Ontario Co. New York.

For reference, in addition to the proceeding, Enquire of T D Gilson, Plattsburgh, Clinton Co New York; E B Fellows, Sennett, Cayuga Co. New York; P W Pulver, Pulver's Corners, Dutchess Co. New York; John Dagget, J P Barth, L P Hutchinson, Newark, Wayne Co. New York; Austin Jessup, Harbor Creek, Erie Co. Pa.; Miller and Kipp, Sherman, Chetauque Co. New York; Dr. E Simpson, Nassau, Rensselaer Co. New York.

For information respecting the Patent or in relation to making and vending. Address [Post Paid,] Jonas B Gilson, Rochester, Monroe Co. New York; Samuel Gilson, Auburn, Cayuga Co. New York.

Wanted immediately two or three well qualified and responsible persons, to act as Agents in the selling of Patent rights upon shares; to such, a good chance will be given, good recomendations as to character &c. will be expected, Machinest's would be preferred.

Address as last mentioned.

N. B. They also Manufacture Machines for Slicing Potatoes, Turneps &c. sep25